"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--LATE RESULTS OF RADICALOPERATIONS IN CANCER OF THE LARGE DUODENAL PAPILLA -U-

AUTHOR-(03)-SHABANOV, A.N., MIKIRTUMOV, S.M., DMITRIYEV, A.YE.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 4, PP 71-74

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CANCER, DUODENUM, SURGERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1988/0039 STEP NO--UR/0589/70/104/004/0071/0074

CIRC ACCESSION NO--AP0105138

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AP0105138
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE PAPER BASING ON THE STUDY OF THE CLINIC AND COURSE OF 39 PATIENTS OPERATED UPON FOR TUMOR OF THE MAJOR PAPILLA DUODENI, INCLUDING 21 PATIENTS TREATED RADICALLY WITH SUBSEQUENT ANALYSIS OF THEIR LATE RESULTS, IT IS CONCLUDED THAT IN LIMITED TUMORS OF THE DUODENAL PAPILLA NOT PENETRATING IN THE PANCREATIC HEAD TRANSDUODENAL PAPILLECTOMY IS INDICATED, THAT IS IN AGREEMENT WITH NEW CONCEPTIONS OF SURGICAL TECHNIC IN REMOVING MALIGNANT TUMORS (A. I. RAKOV) DEFINING THE IDEA OF ANATOMICAL ZONES AND SHEATH LOCALIZATION OF TUMOR. ACCORDING TO THE AUTHORS' DATA TRANSDUODENAL PAPILLECTOMY IS EFFECTIVE ENOUGH FROM THE POINT OF VIEW OF IMMEDIATE AND LATE RESULTS. AN AVERAGE SURVIVAL RATE AFTER THE OPERATION WAS 3 YEARS. MAXIMUM TERMS OF OBSERVATION WERE 8 YEARS. AT PRESENT THIS PATIENT, AGED 63 YEARS OLD, IS STILL ENGAGED IN WORK AND FEELING WELL. IT IS FELT THAT EXTENSIVE PANCREATODUODENAL RESECTION INHERENT IN A GREAT RISK FOR PATIENTS' LIFE SHOULD BE INDICATED ONLY IN TUMORS OF THE DUODENAL PAPILLA INVADING THE PANCREATIC HEAD. AN AVERAGE SURVIVAL RATE AFTER PANCREATODUODENAL RESECTION WAS 1 YEAR AND 10 MONTHS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 006 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--MERCAPTOLYSIS OF 3,DEOXYOCTULOSONIC ACIDS -U-

AUTHOR-(02)-DMITRIEV, B.A., BAKINOVSKIY, L.V.

COUNTRY OF INFO--USSR

SOURCE--CARBOHYD. RES. 1970, 13(2), 293-6

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ACETIC ACID, PENTOSE, MERCAPTAN, HETEROCYCLIC OXYGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605013/B12 STEP NO--NE/0000/70/013/002/0293/0296

CIRC ACCESSION NO--AP0140362

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 006 UNCLASSIFIED PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AP0140362
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TREATMENT OF THE 3,DEOXYOCTULOSONIC ACIDS, (OBTAINED BY CONDENSATION OF D ARABINOSE WITH OXALACETIC ACID) WITH ETSH AND HCL GAVE 3,DEOXY,D,GLUCO,OCTULOSONO,1,4,LACTONE DI-ET DITHIO ACETAL (I), M. 94-5DEGREES; (TETRAACETATE M. 90-1.5DEGREES) AND 2,ETHYLTHIO, 4,(D,ARABINO,TETRAHYDROXYBUTYL),2,BUTEN,4,OLIDE (II) IN 5:1 RATIO.
FACILITY: N. D. ZELINSKII INST. ORG. CHEM., MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--MONOSACCHARIDES. 22. HYDROGENOLYSIS, ACETOLYSIS, AND HYDROLYSIS OF TRANS AZIRIDINECARBOXYLIC ACIDS IN A SERIES OF SUGARS -U-

AUTHOR-(03)-DMITRIYEV, B.A., BAYRAMOVA, N.E., KOCHETKOV, N.K.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 2970, (3), 650-3

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HYDROGENATION, HYDROLYSIS, CARBOXYLIC ACID, SACCHARIDE, AMIDE, GALACTOSE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1975 STEP NO--UR/0062/70/000/003/0650/0653

CIRC ACCESSION NO--AP0123756

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123756

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDROGENATION OF TRANS,2,3,EPIIMINO,2,3,DIDEOXY,4,5:6,7,DI,O, ISOPROPYLIDENE,L,GLYCER,L,GALACTO,HEPTONAMIDE (I) OVER RANEY NI IN MEOH AT ATM. PRESSURE 5 HR GAVE A SYRUP THAT WITH AC SUB2 OMEOH OVERNIGHT GAVE 2,ACETAMIDO,2,3,DIDEOXY,L,GLUCO,HEPTON,AMIDE,M. 195-7DEGREES, (ALPHA)PRIME20 SUBD MINUS 3.78DEGREES, WHICH IN 4 HR AT 100DEGREES WITH 4NHCL GAVE 2,DEOXY,L,ARABINO,HEXOSE. I HEATED WITH AQ. HCLO SUB4 5 HR AT 80DEGREES AND PURIFIED ON IRA400 RESIN IN ACETATE FORM, THEN TREATED WITH AC SUB2 O IN MEOH OVERNIGHT GAVE 2,ACETAMIDO,3,6,ANHYDRO,2,DEOXY,L,GLYCERO,L,GULO,HEPTONAMIDE, M. 200-2DEGREES, (ALPHA) PRIME20 SUBD MINUS 48.4DEGREES, WHICH WITH AQ. NAOCL AT ODEGREES, THEN 1 DAY AT ROOM TEMP., GAVE A SYRUP THAT WITH AC SUB2 O,PYRIDINE GAVE L,ARABINOSE PENTAACETATE, M. 75DEGREES. I HEATED IN ACOH 3 HR GAVE 77PERCENT 2,ACETAMIDE,2,DEOXY,4,5:6,7,DI,O, ISOPROPYLIDENE,L,GLYCERO,L, GALACTO,HEPTONAMIDE, M. 225-7DEGREES, WHICH IN 50PERCENT ACOH 1 DAY GAVE 2,ACETAMIDO,2,DEOXY,4,5,O,ISOPROPYLIDENE,L,GLYCERO,L,GALACTO,HEPTONAMIDE , M.2 22.5-5DEGREES, (ALPHA) PRIME20 SUBD 2.7DEGREES. FACILITY: INST. ORG. KHIM. IM. ZELINSKOGO, MOSCOW, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

Coatings

USSR UDC 621.744.079

STUPACHENKO, Yu. T., SHTEYNBERG, L. A., GENDLER, A. Kh., and DMITRIYEV, B. P.

"Separating Protective Coating for Model Equipment"

Moscow, Mashinostroitel', No 11, Nov 73, p 23

Abstract: The PELT-1 composition (Author's Certificate No 257702) has been developed in the capacity of a separating protective coating for the foundry equipment at Zaporozh'ye Technological Design and Planning Institute. The composition consists of polyvinyl chloride chlorinated resin PSKh-N, epoxy resin ED-6, polyethylene-polyamine, R-4 solvent, and titanium dioxide. The preparation of the composition, its principal component - the fillers, the introduction of the hardening agent (10 weight parts polyethylene-polyamine) and of the filler (100 weight parts titanium dioxide), and the application method of the coating are described. The PELT-1 composition is recommended as protective coating of the wooden model equipment, of parts of agricultural machines for preparing and distribution of fertilizer, and of the metallurgical equipment for preparing exothermal mixtures.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

Vacuum Tubes

USSR

UDC 621.385.6.089.3 (088.8)

DMITRIYEV, B.S., ZHARKOV, YU.D., RACHKOV, V.A.

"Method Of Measurement Of The Coupling Impedance Of Delay Systems"

USSR Author's Certificate No 297087, filed 22 Aug 68, published 23 July 71 (from RZh:Elektronika i yeye primeneniye, No 2, Feb 72, Abstract No 2A165P)

Translation: The method is based on the interaction of an electron beam with a traveling electromagnetic wave propagating in the delay system in question. With the object of simplifying and accelerating the process of measurement, the dependence is taken of the voltage corresponding to a regime of absence of interaction of an electron beam with a slowed-down electromagnetic wave, on the current of the electron beam, and subsequently by a formula the coupling impedance

$$R_{CI} = 12/(\beta_e l)^2 \left(\frac{5}{2} \frac{I_k}{U} - \frac{dI_k}{dU} \right) ,$$

is determined where R_{CI} is the coupling impedance of the delay system, β_e is the propagation constant of the electron beam; l is the geometric length of the delay system; U isthe accelerating voltage; I_k is the current of the collector.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR

OSIPOV, YU. YU., DMITRIYEV, B. S.

"Effect of Xerophagia and Hypokinesis on the Indices of Water-Salt Metabolism in Rats"

Moscow, V sb. Aktual'n. vopr. kosmich. biol. i med. (Current Problems in Space Biology and Medicine--collection of works), 1971, pp 211-212 (from RZh-Biologicheskaya Khimiya, No 21, Nov 71, Abstract No 21F1367)

Abstract: A study was made of the dynamics of body weight, electrolytic composition of plasma and whole blood, hematocrit value and hydration of whole blood, erythrocytes and tissues of the internal organs, muscles and skin. A seven-day diet of dry food caused a considerable increase in the hematocrit value and a reduction in the hydration of whole blood. The sodium and potassium concentration in the blood plasma increased noticeably, and hydration of the tissues of internal organs, muscles, skin and erythrocytes decreased; there was no change of water concentration in the liver tissues. By the end of the experiment, the weight

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR

OSIPOV, YU. YU., et al, V sb. Aktual'n. vopr. kosmich. biol. i med., 1971, pp 211-212

reduction of the animals was 33 percent of the initial weight. The combined action of limited movement and xerophagia caused changes of a similar nature. Weight loss in these animals was 34 percent. The hematocrit value reached was higher than in rats kept on a dry diet alone, although the water concentration in the whole blood of the hypokinetic animals was higher. The sodium concentration in the blood plasma was high, but did not reach the values observed in the animals allowed freedom of movement. The potassium concentration in the blood plasma was normal. The water content in the tissues of internal organs in the animals with freedom of movement decreased, but was somewhat closer to the values for intact rats. Increased water content was observed in the liver tissues. Thus depriving animals of water under conditions of restricted movement causes less intensive changes in the water-salt status of the rats than in the case of xerophagia alone, which may be an indication of the competence of the system of osmoregulation under the given experimental conditions. Resume.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR

UDC: 621.317.3

RACHKOV, V. A., ZHARKOV, Yu. D., DMITRIYEV, B. S.

"On the Effect Which the Input Signal Level has on the Results of Electron Probe Measurements of the Dispersion and Resistance of Coupling of Decelerating Systems"

Elektron. tekhnika. Nauchno-tekhn. sb. Kontrol'no-izmerit. apparatura (Electronic Technology. Scientific and Technical Collection. Monitoring and Measuring Equipment), 1970, vyp. 2 (20), pp 27-33 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A302)

Translation: The authors analyze the effect which the input signal level has on measuring the coupling resistance and dispersion of decelerating systems by using an electron probe. A relationship is found which can be used to evaluate the input signal power at which relationships of linear theory may still be used. Resumé.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR D UDC 621.385.6.083.9

DMITRIYEV, B. S., ZHARKOV, Yu. D., RACHKOV, V. A.

"A Method of Measuring the Velocity of Charged Particles"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, 4 Feb 70, p 62, Patent No 263047, Filed 14 Jan 67

Translation: This Author's Certificate introduces a method of measuring the velocity of charged particles which involves passing the charged particles through a moderating structure with a known dispersion (phase velocity). The unit differs because it is designed for improved accuracy and simplified measurement. The no-effect mode is set by selecting the frequency of the high-frequency signal applied to the modulating structure. This mode is characterized by the absence of interaction between the moving flux of the charged particles and the moderated electromagnetic wave and by equality of the particle velocities and the phase velocity of the wave. Then the phase velocity of the wave on the given frequency is determined as equal to the measured particle velocity.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--A METHOD OF MEASURING THE VELOCITY OF CHARGED PARTICLES -U-

AUTHOR-(03)-DMITRIYEV, B.S., ZHARKOV, YU.D., RACHKOV, V.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, OTKRYTIYA, IZOVRETENIYA, NO 7, 4 FEB 70, P 62, PATENT NO 263047

DATE PUBLISHED--04FEB70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CHARGED PARTICLE, VELOCITY MEASURING INSTRUMENT, AUTHOR CERTIFICATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/1116 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0112238

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 018 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AA0112238
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS AUTHOR'S CERTIFICATE INTRODUCES A METHOD OF MEASURING THE VELOCITY OF CHARGED PARTICLES WHICH INVOLVES PASSING THE CHARGED PARTICLES THROUGH A MODERATING STRUCTURE WITH A KNOWN DISPERSION (PHASE VELOCITY). THE UNIT DIFFERS BECAUSE IT IS DESIGNED FOR IMPROVED ACCURACTY AND SIMPLIFIED MEASUREMENT. THE NO EFFECT MODE IS SET BY SELECTING THE FREQUENCY OF THE HIGH FREQUENCY SIGNAL APPLIED TO THE MODULATING STRUCTURE. THIS MODE IS CHARACTERIZED BY THE ABSENCE OF INTERACTION BETWEEN THE MOVING FLUX OF THE CHARGED PARTICLES AND THE MODERATED ELECTROMAGNETIC WAVE AND BY EQUALITY FO THE PARTICLE VELOCITIES AND THE PHASE VELOCITY OF THE WAVE. THEN THE PHASE VELOCITY OF THE WAVE ON THE GIVEN FREQUENCY IS DETERMINED AS EQUAL TO THE MEASURED PARTICLE VELOCITY.

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UR9020

AUTHORS-- BELYAYEV, V., AND DMITRIYEV, D., CORRESPONDENTS

TITLE-- A COMPLETE READINESS

NEWSPAPER-- SOVETSKAYA LITVA, MARCH 10, 1970, P 1, COLS 3-6

ABSTRACT-- THE AUTHORS RELATE THEIR IMPRESSIONS AS THEY WITNESS THE OPERATIONS AT SOME DIVISION HEADQUARTERS DURING THE "DVINA" MANEUVERS.

ACCORDING TO ONE OF THE GENERALS, A PRESENT-DAY SOVIET MECHANIZED DIVISION HAS 16 TIMES AS MANY TANKS, 37 TIMES AS MANY PERSONNEL CARRIERS AND 13 TIMES AS MANY AUTOMATIC WEAPONS AS ITS COUNTERPART OF THE SECOND WORLD WAR. ONE SALVO FIRED BY THE DIVISION ARTILLERY AND MORTARS WOULD WEIGH 53,000 KG. THE NUMBER OF DIVISION VEHICLES, ASSESSED AS HORSE POWER PER SOLDIER, IS 30 H.P. PER SOLDIER.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

AN0032397 UR9019

AUTHORS-- BELYAYEV, V., AND DMITRIYEV, D., CORRESPONDENTS

TITLE-- A TANK ENGAGEMENT

NEWSPAPER-- SOVETSKAYA LATVIYA, MARCH 14, 1970, P 3, COLS 1-4

ABSTRACT-- IN DESCRIBING A TANK BATTLE DURING THE DVINA MANEUVERS IN BELORUSSIA, THE AUTHOR MAKES CLAIM THAT IN IT THERE WERE ENGAGED APPROXIMATELY AS MANY TANKS AS IN THE LARGEST BATTLE OF THE SECOND WORLD WAR AT KURSK.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/3 034 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--COSMONAUTS INTERVIEWED IN SPACE -U-

AUTHOR--DMITRYEV, D.

D

COUNTRY OF INFO--USSR

SOURCE--FBIS DAILY REPORT, SOVIET UNION, 3 JUNE 1970, VOL 3, NR 110, P D 4-5
DATE PUBLISHED--------70

SUBJECT AREAS--SPACE TECHNOLOGY, BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--MANNED SPACECRAFT, COSMONAUT/(U)SOYUZ 9 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1566 STEP NO--US/0000/70/003/110/0004/0005

CIRC ACCESSION NO--AP0109608
ZZZZZZZZZZZZ UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/3 034 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0109608

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MOSCOW JUNE 5 TASS, TASS SPECIAL CORRESPONDENT DMITRY DMITRYEV REPORTS FROM THE SOVIET SPACE SHIP "SOYUZ 9" CONTROL CENTRE: AN ORIGINAL OUTER SPACE PRESS CONFERENCE WAS HELD DURING THE 50TH REVOLUTION OF THE "SOYUZ 9". SHORTLY BEFORE THE CREW RECEIVED JOURNALISTS' QUESTIONS. QUESTION: ANDRIAN NIKOLAYEV, YOU ARE MAKING YOUR SECOND SPACE FLIGHT. WHAT NEW SENSATIONS HAVE YOU EXPERIENCED IN THIS FLIGHT? ANSWER: THERE IS NOTHING NEW, IN GENERAL. THE SENSATIONS ARE THE SAME AS IN THE FIRST FLIGHT. QUESTION: COMPARE THE PROGRAMS OF YOUR FIRST AND SECOND FLIGHTS FROM THE POINT OF VIEW OF ABUNDANCE OF TASKS. ANSWER: THE PROGRAM OF THE WORK ON BOARD "VOSTOK" WAS REALLY EXTENSIVE BUT IT IS MUCH MORE ABUNDANT THIS TIME. WE ARE MAKING MANY SCIENTIFIC TECHNICAL, MEDICAL BIOLOGICAL AND OTHER EXPERIMENTS. QUESTION: YOU MADE A FLIGHT IN "VOSTOK" SPACESHIP. WHAT CAN YOU SAY ABOUT CONVENIENCE FOR WORK ON BOARD THE "SOYUZ" SPACESHIP AND WHAT ARE ITS POSSIBILITIES? ANSWER: "SOYUZ" HAS GREAT ADVANTAGES IN COMPARISON WITH "VOSTOK". THERE ARE EXCELLENT CONDITIONS AND CONVENIENCES FOR WORK AND REST ON BOARD THE "SOYUZ" SPACESHIP. THE PRESS CONFERENCE WAS SIMULTANEOUSLY TRANSMITTED TO THE CONTROL CENTRE BY SPACEVISION CHANNELS. ANDRIAN NIKOLAYEV GAVE EXPLANATIONS. "SOYUZ 9" IS A MULTISEATER. IT HAS INSTRUMENTS AND EQUIPMENT WHICH ENABLES TO CARRY OUT WIDE MANOEUVRES IN OUTER SPACE, MAKE IT POSSIBLE TO APPROACH TO OTHER SHIPS AND DOCK WITH OTHER SPACESHIPS, HE SAID. BUT OUR PROGRAM DOES NOT SET SUCH AIMS TO THE CREW. OURS IS A SOLITARY FLIGHT.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

3/3 034 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0109608

ABSTRACT/EXTRACT--A QUESTION WAS PUT TO THE FLIGHT ENGINEER OF "SOYUZ 9" VITALY SEVASTIANOV: YOU ARE FOR THE FIRST TIME IN OUTER SPACE. HOW QUICKLY HAVE YOU GOT USED TO WEIGHTLESSNESS? DOES WORK GO SWIMMINGLY? ANSWER: I AM GRADUALLY GETTING USED TO WEIGHTLESSNESS. SOMETIMES IT SEEMS TO ME THAT I HAVE GOT USED TO IT ALREADY BUT ALL OF A SUDDEN DIFFERENT SURPRISES COME. THE ASSOCIATIONS ARE STILL LIKE ON THE EARTH, BUT THE SITUATION IS DIFFERENT. BUT IT IS COMFORTABLE TO WORK HERE, NOT WORSE THAN ON EARTH. MUCH TIME IS NEEDED, IT IS TRUE, TO MAKE DIFFERENT "MANUAL OPERATIONS" THAN IN THE CONDITIONS OF THE EARTH. IT IS NECESSARY NOT ONLY TO FIX WELL AND TAKE AWAY INSTRUMENTS AND THE LOG BOOK BUT TO KEEP A WATCHFUL EYE OVER OUR OWN MOVEMENTS.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

4/3 041 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--REPORT BY COSMONAUT KUBASOV -U-

AUTHOR--DMITRIEV, D.

COUNTRY OF INFO--USSR

SOURCE--FBIS DAILY REPORT, SOVIET, UNION, 11 JUNE 1970, VOL 3, NR 113, D
3 - D 4

DATE PUBLISHED--------70

SUBJECT AREAS--SPACE TECHNOLOGY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MANNED SPACECRAFT, COSMONAUT, MEDICAL EXPERIMENT, SPACEBORNE ATMOSPHERIC OBSERVATION/(U)SOYUZ 9 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1587 STEP NO--US/0000/70/003/113/0003/0004

CIRC ACCESSION NO--AP0109615

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/3 041 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0109615

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MOSCOW JUNE 10 TASS, TASS SPECIAL CORRESPONDENT DMITRY DMITRIEV REPORTS FROM THE "SOYUZ 9" SPACESHIP FLIGHT CONTROL CENTRE: THE TECHNICAL DIRECTOR OF THE SOYJZ 9 MISSION, PILOT COSMONAUT VALERY KUBASOV, SUMMED UP THE RESULTS OF A WORKING WEEK OF ANDRIAN NIKOLAEV AND VITALY SEVASTYANOV IN SPACE. MEDICO BIOLOGICAL EXPERIMENTS WERE BEGUN IN THE SIXTH ORBIT AND WERE UNIFORMLY DISTRIBUTED IN THE COURSE OF ALL THE 8 DAYS OF THE FLIGHT. THE SCIENTIST DESCRIBED ONE OF THE EXPERIMENTS AS A CHECK (OF) THE EXTERNAL RESPIRATION FUNCTION. JUST IMAGINE, VALERY KUBASOV SAID, A PLASTIC CONTAINER, WITH AN AIR TIGHT LID. ONE MUST INHALE A LUNGFUL OF AIR AND EXHALE IT ON PUTTING THE CONTAINER TO THE MOUTH. AT FIRST, THE EXHALATIONS ARE DONE AT REST, THEN, AFTER A SPECIAL SERIES OF PHYSICAL EXERCISES. UPON THE RETURN OF ANDRIAN NIKOLAYEV AND VITALY SEVASTYANOV, THE DOCTORS WILL THOROUGHLY ANALYSE THE SAMPLES OF THE AIR, AND DETERMINE THE CONTENT OF CARBON DIOXIDE AND OXYGEN. BY THE RATIO OF THESE GASES ONE CAN CALCULATE WHAT WERE THE COSMONAUT'S ENERGY EXPENDITURE. THE SAME EXPERIMENTS WERE CARRIED OUT DURING THE TRAINING OF THE CREW ON THE GROUND. DURING THE FLIGHT, UNDER THOROUGH INVESTIGATION ARE THE FUNCTIONS OF THE VESTIBULARY APPARATUS, AND THE CONTRAST SENSITIVITY OF THE EYES. THE VALUES OF ARTERIAL TENSION AND DYNAMICS OF PAIN SENSITIVITY ARE REGISTERED. A MAXIMUM STRENGTH OF THE HAND IN THE STATE OF WEIGHTLESSNESS IS CHECKED BY DYNAMOMETERS. AMONG THE MEDICAL EXPERIMENTS IS THE EXAMINATION OF THE DYNAMIC CHARACTERISTICS OF THE OPERATOR IN A SPACE FLIGHT.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

3/3 041 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AP0109615

ABSTRACT/EXTRACT--A CERTAIN CURVE IS PROJECTED ON TO THE SCREEN OF A SPECIAL INSTRUMENT, AND THE COSMONAUT SHOULD PENCIL THE CURVE ON PAPER. THE ACCURACY OF THE REPRODUCTION WILL BE KNOWN ON THE GROUND. THE EXPERIMENT MAKES IT POSSIBLE TO DETERMINE THE DEGREE OF QUICKNESS OF MAN'S ORIENTATION IN A SPACE FLIGHT AND COORDINATION OF HIS MOVEMENTS. ANDRIAN NIKOLAYEV AND VITALY SEVASTYANOV CARRIED OUT EXPERIMENTS PERTAINING TO THE STUDY OF MICRO AND MACRO GENESIS OF FLOWERING PLANTS, WATCHED OVER THE DIVERSION OF CELLS OF CHLORELLA, AND DID AN EXPERIMENT WITH BACTERIA CULTURES WHICH PROPAGATE IN LIQUID MEDIA. DURING THE ENTIRE WORKING WEEK, THE CREW OF "SOYUZ 9" WERE IMPLEMENTING AN EXTENSIVE PROGRAM OF OBSERVATIONS OF METEOROLOGICAL SITUATION. IN THE 69TH ORBIT, THE COSMONAUTS OBSERVED A POWERFUL TROPICAL STORM IN THE GULF OF BENGAL. ON JUNE 8, THEY NOTED A ZONE OF EXTENSIVE CLOUDINESS OF A DISPERSING CYCLONE IN THE PACIFIC. IN THE 110TH ORBIT, TITALY SEVASTYANOV OBSERVED FOREST FIRES IN AFRICA, IN THE AREA OF CHAD LAKE. ANDRIAN NIKOLAYEV AND VITALY SEVASTYANOV CARRIED OUT FURTHER TRY OUTS OF THE SPACESHIPS' SYSTEMS, TESTED NEW SENSITIVE INSTRUMENTS OF THE ORIENTATION SYSTEM, METHODS OF NAVIGATION, DETERMINED THE VALUES OF AERODYNAMIC AND GRAVITATIONAL DISTURBANCES AND LOCKED THE SPACESHIP ON VARIOUS GUIDING STARS OF THE NORTHERN AND SOUTHERN HEMISPHERES. ANDRIAN NIKOLAYEV PHOTOGRAPHED THE MOON IN THE 115TH ORBIT.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/4 036 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--DMITRIYEV COMMENTARY -U-

AUTHOR--DMITRIYEV, D.

D

COUNTRY OF INFO--USSR

SOURCE--FBIS DAILY REPORT, SOVIET UNION, 9 JUNE 1970, VOL 111, NR 111, P. D 4-5

DATE PUBLISHED--09JUN70

SUBJECT AREAS--SPACE TECHNOLOGY

TOPIC TAGS--SPACECRAFT CONTROL FACILITY, MANNED SPACECRAFT, CABIN ENVIRONMENT, AUTOMATIC CONTROL, EXCERCISE/(U)SOYUZ 9 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1590 STEP NO--US/0000/70/111/111/0004/0005

CIRC ACCESSION NO--AP0109616

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/4 036 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0109616

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MOSCOW SPECIAL TASS CORRESPONDENT DMITRIY DMITRIYEV REPORTS FROM THE SOVIET SPACESHIP SOYUZ 9 CONTROL CENTER: THE WORKING DAY OF THE SOYUZ 9 CREW LASTS FOR 18 HOURS. IT HAS BECOME CLEAR FROM THE EXPERIENCE OF THE FLIGHTS THAT IN CONDITIONS OF WEIGHTLESSNESS, 6 HOURS OF SLEEP ARE SUFFIVIENT FOR A PERSON TO REST NORMALLY AND COMPLETELY RESTORE HIS STRENGTH. THAT IS WAY THREE QUARTERS OF ANDRIAN NIKOLAYEV AND VITALIY SEVASTYANOV'S DAY IS FILLED WITH SCIENTIFIC EXPERIMENTS, OBSERVATIONS, AND OPERATIONS IN CONTROLLING THE SHIP. SOYUZ 9 IS IN FLIGHT FOR THE FOUTRH DAY. OBEDIENT AND PERCISE AUTOMATIC INSTRUMENTS, TO WHICH THE CARE ABOUT THE HEALTH AND COMFORT OF THE CREW HAS BEEN ENTRUSTED HELP THE COSMONAUTS. THE SHIP IS EQUIPPED WITH THOUSANDS OF SENSORS (DATCHIKI), AUTOMATIC AIDS TO MAN IN SPACE. THERE ARE SEVERAL TIMES MORE SENSORS ON THE SOYUZ 9 THAN THERE WERE ON VOSTOKS AND VOSKHODS. AUTOMATIC INSTRUMENTS MAINTAIN NORMAL TEMPERATURE, HUMIDITY AND COMPSITION OF THE ATMOSPHERE IN THE SHIP HELP MAINTAIN THE CREW'S HEALTH, AND CARRY OUT VARIOUS OPERATIONS ON COMMAND FROM CONTROL DEVICES. AUTOMATIC INSTRUMENTS IMFORM THE DESIGNER CREATORS OF SOYUZ 9 IN DETAIL ABOUT THEIR ACTIONS AND THEIR OWN "STATE OF HEALTH." AUTOMATIC INSTRUMENTS WHICH WORK IN SPACE CONDUCT THE DIALOG WITH CONTROL CENTER IN AN ECONOMICAL FILLED TO OVERFLOWING, (DO PREDELA NASYSHCHENNYM) "LANGUAGE." THEIR REPORTS ARE REGISTERED ON EARTH AND ARE INSTANTLY ANALYZED AND PROCESSED BY COMPUTERS. EVERY SECOND DURING THE COMMUNICATIONS SESSION, INFORMATION ON RESULTS OF TENS OF THOUSANDS OF MEASUREMENTS OF EVERY KIND ARRIVES AT THE CONTROL CENTER.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

3/4 036 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0109616

ABSTRACT/EXTRACT--THE FLIGHT OF NIKOLAYEV AND SEVASTYANOV, IN ESSENCE, IS A SERVICE ATTACHMENT IN SPACE. THE DESIGNERS OF SOYUZ 9 ARE CERTAIN THAT THERE IS A LOT OF WORK TO BE DONE IN SPACE, NOT ONLY BY ASTRONOMERS AND ASTROPHYSICISTS BUT ALSO BY METEOROLOGISTS, DOCTORS, ENGINEERS, GEOPHSICISTS, BIOLOGISTS, AVIATORS, GEOLOGISTS AND PILOTS. NOW THEY CAN ALL ALREADY WORK FRUITFULLY IN SPACE. THIS TIME THE DESIGNERS HAVE PAID SPECIAL ATTENTION TO "SERVICE" PROBLEMS IN SPACE. THE COMFORT LEVEL AND (WORDS INDISTINCT) ON BOARD THE SOYUZ 9 ARE JUST LIKE THE FACILITIES AVAILABLE AT A GOOD HOTEL. NIKOLAYEV SAID THAT THE CREW IS EAGERLY TAKING POSSESSION OF THE VARIOUS NEW SERVICE FACILITIES OF SPACE TECHNOLOGY. IT IS AS YET NOT POSSIBLE TO HAVE A SHOWER BATH IN SPACE, BUT THINGS LIKE SHAVING, MAKING HOT COFFEE OR COCO OR STEAMING BORSHICH OR CABBAGE SOUP ARE COMPLETELY FEASIBLE. PHYSICAL EXERCISE AND TWICE DAILY RUBDOWNS ARE MANDATORY FOR THE CREW. ENGAGED IN OTHER, IN THEIR OPINION MORE IMPORTANT, PURSUITS, THE COSMONAUTS DECIDED TO SKIP THE EXERCISES. THIS WAS INSTANTLY NOTICED ON EARTH. INSTRUMENTS REPORTED TO THE COMMAND CENTER THAT THERE WAS SLIGHTLY LESS CARBON DIOXIDE THAN NEED BE IN THE AIR OF THE CABIN. NATUALLY, THIS WAS NO CAUSE FOR ANY PARTICULAR CONCERN BUT AFTER SOME CALCULATIONS THE DOCTORS REACHED THE CONCLUSION THAT THE COSMONAUTS WERE NOT "FULLY LOADED" AND ADVISED THEM TO DO MORE STRENOUS PHISICAL EXERCISES. GREAT ATTENTION IS PAID TO DOMESTIC COMFORT DURING THE FLIGHT.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

4/4 036 UNCLASSIFIED PROCESSING DATE--090CT70

CIRC ACCESSION NO--AP0109616

ABSTRACT/EXTRACT--THE CREW HAVE AT THEIR DISPOSAL A VACUUM CLEANER WITH WHICH TO CLEAN THE "TWO ROOM FLAT". WHILE ONE OF THE COSMONAUTS WORKS THE VACUUM CLEANER THE OTHER WARMS UP THE BREAKFAST. SHAVING IS POSSIBLE BOTH WITH A SAFETY RAZOR AND AN ELECTRIC RAZOR. NIKOLAYEV STATED THAT HE PREFERS TO SHAVE ELECTRICALLY. THE COSMONAUTS SLEEP IN LIGHT WEIGHT TRAINING SUITS. INCORPORATED IN THE FABRIC ARE RUBBER COMPONENTS WHICH HELP TO BALANCE THE MUSCULAR TENSION IN WEIGHTLESSNESS;EXERCISES CONSIST OF LEAPS, WALKING, SIMULATED RUNNING AND EXERCISES WITH THE EXPANDER. THE SPACE RATIONS HAVE BEEN CAREFULLY SELECTED, TAKING INTO ACCOUNT INDIVIDUAL TASTES AND PREFERENCES HAM AND CHICKEN, COCOA AND JUICES, BORSHCH, CABBAGE SOUP, WORDS INDISTINCT) COOKIES, CHEESE AND COTTAGE CHEESE, CANDIED FRUIT, JAM, BREAD AND OTHER FOODSTUFFS.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 035 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--WORK DAYS IN ORBIT -U-

AUTHOR--DMITRIYEV, D.

COUNTRY OF INFO--USSR

SOURCE--PRAVDA UKRAINY, JUNE 15, 1970, P 3, COLS 1-8

DATE PUBLISHED--15JUN70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, SPACE TECHNOLOGY

TOPIC TAGS--MANNED SPACECRAFT, SCIENTIFIC PERSONNEL/(U)SOYUZ 9 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/2007 STEP NO--UR/9013/70/000/000/0003/0003

CIRC ACCESSION NO--AN0109939

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 035 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AN0109939

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SOME OF THE RESEARCH EXPERTS WHO WORKED IN CLOSE CONTACT WITH THE ASTRONAUTS OF THE "SOYUZ 9" DURING 12 DAYS OF ITS FLIGHT LEFT THE FLIGHT CONTROL CENTER ON JUNE 13.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 035 UNCLASSIFIED PROCESSING DATE--020CT70
TITLE--SPACE WORKING PLATFORM -U-

AUTHOR--DMITRIYEV, D.

COUNTRY OF INFO--USSR

SOURCE--PRAVDA UKRAINY, JUNE 6, 1970, P 3, COLS 2-6

DATE PUBLISHED--06JUN70

SUBJECT AREAS--SPACE TECHNOLOGY

TOPIC TAGS--MANNED SPACECRAFT, MANNED SPACE FLIGHT/(U)SOYUZ 9 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1594 STEP NO--UR/9013/70/000/000/0003/0003

CIRC ACCESSION NO--AN0108014
UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 035 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AN0108014

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE STRESSES "COMFORTS" PROVIDED BY THE "SOYUZ 9" SPACESHIP, AND NEW HOME APPLIANCES SUCH AS VACUUM CLEANER, HOT PLATE, AND ELECTRIC RAZOR. AT THE RADIO PRESS CONFERENCE HELD DURING THE 50TH REVOLUTION, NIKOLAYEV STATED THAT THEIR FLIGHT IS A "SOLO" FLIGHT AND WILL NOT INVOLVE RENDEZVOUS OR DOCKING.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/3 051 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EXPERIMENTS IN ORBIT, DMITRIYEV DESCRIBES SOYUZ-9 PHOTOGRAPHY EXPERIMENTS -U-
AUTHOR--DMITRIYEV, D.

D

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, MOSKOVSKAYA PRAVDA, 15 JUNE 1970, P 3

DATE PUBLISHED--15JUN70

SUBJECT AREAS--SPACE TECHNOLOGY, PHYSICS, METHODS AND EQUIPMENT

TOPIC TAGS--MANNED SPACECRAFT, SPACEBORNE EARTH PHOTOGRAPHY, CAMERA, SPECTROPHOTOMETRIC ANALYSIS/(U)SOYUZ 9 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0652 STEP NO--UR/9011/70/000/000/0003/0003

CIRC ACCESSION NO--AN0136102

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/3 051 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AN0136102
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PART OF A GROUP OF SPECIALISTS DEPARTED FROM THE CONTROL CENTER ON 13 JUNE. DURING 12 DAYS OF FLIGHT THE "SOYUZ-9" CREW WORKED IN CLOSE CONTACT WITH THEM AND PERFORMED JOINT EXPERIMENTS FORMULATED BY THE EFFORTS OF GEODESISTS, GEOLOGISTS AND HYDROMETEOROLOGISTS. "HOW WERE THESE EXPERIMENTS PREPARED AND EXECUTED,?" ASKED AN INTERESTED TASS CORRESPONDENT. "THE 'SOYUZ-9' CARRIED INSTRUMENTATION CAPABLE OF PHOTOGRAPHING EXTENSIVE REGIONS OF THE EARTH'S SURFACE. THE INSTRUMENTATION WAS DEVELOPED TAKING INTO ACCOUNT THE DESIRES AND PROPOSALS OF THE COSMONAUTS WHO HAD EARLIER PERFORMED SUCH WORK. THE CAMERAS WERE DEVELOPED TAKING INTO ACCOUNT THE SPECIFIC CONDITIONS OF SPACE FLIGHT. THE PHOTOGRAPHY PROCESS HAS BEEN CONSIDERABLY AUTOMATED. THE PHOTOGRAPHY WAS DONE IN SUCH A WAY THAT EACH SUCCESSIVE FRAME CONSIDERABLY OVERLAPPED THE PRECEDING ONE IN ORDER TO OBTAIN A STEREOSCOPIC PAIR OF PHOTOGRAPHS. THE "SOYUZ-9" CARRIES DIFFERENT TYPES OF BLACK AND WHITE, SPECTROZONAL AND COLOR FILMS. THEY WERE SELECTED IN SUCH A WAY THAT DURING THE SURVEY OF DIFFERENT LANDSCAPES FROM SPACE IT WOULD BE POSSIBLE TO DETECT THE MOST CHARACTERISTIC FEATURES, SUCH AS VEGETATION, ROCKS OR SOIL. EXPERIMENTS ASSOCIATED WITH SURVEYS OF THE MOST CHARACTERISTIC LANDSCAPES OF THE EARTH FROM SPACE, FOR EXAMPLE, ENABLE GEOGRAPHERS TO REFINE THE BOUNDARIES OF DIFFERENT CLIMATIC ZONES ON THE EARTH. FOR EXAMPLE, USING SPACE PHOTOGRAPHS TAKEN BY SOVIET AUTOMATIC INTERPLANETARY PROBES OF THE "ZOND" TYPE, SOVIET GEOGRAPHERS MADE CORRECTIONS IN EXISTING PHYSICAL MAPS OF THE WORLD.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

3/3 051 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AN0136102

ABSTRACT/EXTRACT--IT WAS FOUND THAT THE BOUNDARIES OF DESERTS AND SEMIDESERTS WERE NOT DRAWN CORRECTLY AND THE MAPS WERE ERRONEOUS. SIMULTANEOUSLY WITH PHOTOGRAPHING THE EARTH'S SURFACE ANDRIYAN NIKOLAYEV AND VITALIY SEVASTYANOV MADE SPECTROPHOMETRIC INVESTIGATIONS OF THE EARTH'S ATMOSPHERE AND THE PLANETARY SURFACE. THE SURVEYS WERE MADE USING SPECIALLY SELECTED SPECTROZONAL FILMS, TWO LAYERED FILMS AND FILMS SENSITIVE TO DEFINITE ZONES OF THE SPECTRUM, EMPLOYING LIGHT FILTERS. THIS MADE IT POSSIBLE TO DISCRIMINATE A NARROW ZONE OF THE VISIBLE OR INFRARED PARTS OF THE SPECTRUM, SUCH AS BLUE, ORANGE, AND RED LIGHT. THE DENSITY OF THE NEGATIVES OBTAINED IN TERRESTRIAL LABORATORIES WILL MAKE IT POSSIBLE TO EVALUATE THE BRIGHTNESS CHARACTERISTICS OF DIFFERENT TERRESTRIAL ROCKS, LIMESTONES, BASALTS, GRANITES, CLAYS, AND SANDY SOILS. IN THE FUTURE SCIENTISTS ARE HOPING THAT SUCH SPACE SURVEYS WILL MAKE IT POSSIBLE TO REFINE THE MINERALOGICAL COMPOSITION OF OTHER CELESTIAL BODIES OF THE SOLAR SYSTEM FROM SPACE.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 060 UNCLASSIFIED PROCESSING DATE--30OCT7

TITLE--A TWO WEEK WATCH IN SPACE -U-

AUTHOR--DMITRIYEV, D.

COUNTRY OF INFO--USSR

SOURCE--PRAVDA VOSTOKA, JUNE 18, 1970, P 2, COLS 1-6

DATE PUBLISHED--18JUN70

SUBJECT AREAS--BEHAVIORAL AND SOCIAL SCIENCES, NAVIGATION, SPACE TECHNOLOGY

TOPIC TAGS--FLIGHT CONTROL SYSTEM, COSMONAUT, SPACE COMMUNICATION, MANNED SPACECRAFT/(U)SOYUZ 9 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0831 STEP NO--UR/9014/70/000/000/0002/0002

CIRC ACCESSION NO--AN0129915

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 060 UNCLASSIFIED PROCESSING DATE--30OCT7

CIRC ACCESSION NO--AN0129915

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE REVEALS THAT THE COMMUNICATION TEAM ,GRUPPA SVYAZI, AT THE FLIGHT CONTROL CENTER IS HEADED BY ALEKSEY LEONOV, PILOT ASTRONAUT OF THE U.S.S.R.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/3 048 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--EARTH PHOTOGRAPHY -U-

AUTHOR--DMITRIYEV, D.

COUNTRY OF INFO--USSR

SOURCE--FBIS DAILY REPORT, SOVIET UNION, 15 JUNE 1970, VOL III, NR 115, P D 4

DATE PUBLISHED--15JUN70

SUBJECT AREAS--SPACE TECHNOLOGY, METHODS AND EQUIPMENT

TOPIC TAGS--MANNED SPACECRAFT, SPACEBORNE EARTH PHOTOGRAPHY, SPACEBORNE ATMOSPHERIC OBSERVATION, PHOTOGRAPHIC FILM/(U)SOYUZ 9 MANNED SPACECRAFT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1999/1725 STEP NO--US/0000/70/003/115/0004/0004

CIRC ACCESSION NO--AP0123530

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/3 048 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123530

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. "SOYUZ 9" HAS BEEN CONTINUING ON ITS FLIGHT FOR THE 13TH DAY AND THE GROUND CONTROL CENTERS HAVE BEEN CONTINUING ON THEIR WATCH DURING ALL THIS TIME. THE SOVIET "SOYUZ 9" SPACESHIP HAS COMPLETED 200 ORBITS AND COVERED EIGHT MILLION 300 KILOMETERS. THERE ARE DIFFERENT TYPES OF BLACK AND WHITE SPECTRO ZONAL AND COLOR FILMS ON BOARD THE "SOYUZ 9". THEY HAVE BEEN SELECTED IN SUCH A WAY THAT IN MAKING PHOTOGRAPHS OF DIFFERENT LANDSCAPES FROM SPACE THEY MAKE IT POSSIBLE TO SPOT ITS CHARACTERISTIC FEATURES: VEGETATION, ROCK OR SOIL, FOR EXAMPLE. SIMULTANEOUSLY WITH PHOTOGRAPHS THE EARTH'S SURFACE, ANDRIAN NIKOLAEV CARRIED OUT SPECTRAMETRIC RESEARCH OF TERRESTRIAL ATMOSPHERE AND THE SURFACE OF THE PLANET. FOR PHOTOGRAPING THEY USED SPECIALLY SELECTED SPECTROZONAL, DOUBLE LAYER AND SENSITIVE TO CERTAIN SPECTRAL ZONES, FILMS WITH THE USE OF LIGHT FILTERS. THIS PERMITTED TO DISTINGUISH THE NARROW ZONE OF THE VISIBLE OR THE INFRARED SECTION OF THE SPECTRUM, FOR EXAMPLE, BLUE, ORANGE, AND RED RAYS. THE DENSITY OF THE RECEIVED NEGATIVES WILL MAKE IT POSSIBLE TO EVALUATE IN GROUND LABORATORIES THE BRIGHTNESS CHARACTERSITICS OF DIFFERENT TERRESTRIAL ROCKS: LIMESTONES, BASALTS, GRANITES, CLAYS, AND SAND SOILS. SCIENTISTS HOPE THAT IN FUTURE SUCH PHOTOGRAPHY FROM SPACE WILL ENABLE THEM TO SPECIFY THE MINEROLOGICAL COMPOSITION OF SOME CELESTIAL BODIES OF THE SOLAR SYSTEM. SPACE SURVEY AND MAPPING WILL MAKE IT POSSIBLE WITH TIME TO ESTIMATE THE GENERAL CONTENT OF MOISTURE IN GLACIERS. IT IS PLANNED TO USE SPACE SURVEY IN SEARCH FOR FISH SHOALS AND SEA MAMMALS IN OCEANS.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

3/3 048 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0123530

ABSTRACT/EXTRACT--IT WILL PROBABLY BECOME POSSIBLE WITH TIME TO ESTIMATE FROM SPACE THE TOTAL RESERVES OF MERCHANTABLE TIMBER IN FORESTS, SPECIFY THE EDGE OF ICE FIELDS IN THE ARCTIC AND ANTARCTIC, SET UP A PERMANENT OBSERVATION SERVICE FOR THE PROCESSES OF THEIR MELTING AND FORMATION. IN A WORD, AS EXPERTS SAID, EXPERIMENTS CARRIED OUT WITH THE HELP OF SURVEYING EQUIPMENT WILL, PROBABLY, BE OF GREAT SIGNIFICANCE FOR THE DEVELOPMENT OF SPACE PHOTOGRAPHY IN THE INTERESTS OF NATIONAL ECONOMY AND SCIENCE.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--EYES AND EARS OF THE EARTH, PROBLEMS INVOLVED IN SPACESHIP TRACKING -U-

AUTHOR--DMITRIYEV, G.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KRASNAYA ZVEZDA, 12 JUNE 1970, P 2

DATE PUBLISHED--12JUN70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, SPACE TECHNOLOGY, NAVIGATION

TOPIC TAGS--OCEANOGRAPHIC SHIP, SPACECRAFT CONTROL, FLIGHT CONTROL SYSTEM, SPACE NAVIGATION, GROUND COMMUNICATION EQUIPMENT, SPACECRAFT TRACKING, METEOROLOGIC SATELLITE/(U)METEOR METEOROLOGIC SATELLITE, (U)MOLNIYA 1 SATELLITE, (U)BOROVICHI OCEANOGRAPHIC SHIP, (U)NEVEL OCEANOGRAPHIC SHIP, (U)RISTNA OCEANOGRAPHIC SHIP, (U)MORZHOVETS OCEANOGRAPHIC SHIP,

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1627 STEP NO--UR/9008/70/000/000/0002/0002

CIRC ACCESSION NO--AN0131962

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. "HOW IS THE CONTROL OF SPACESHIP FLIGHT HANDLED?" "EXACTLY WHAT IS MEANT BY THE TERM 'COMMAND MEASURING COMPLEX'?" . THESE ARE QUESTIONS DIRECTED TO THE EDITORS BY READERS Z. SHABAN AND K. OSOKIN. BELOW WE PUBLISH AN ARTICLE WHICH GIVES ANSWERS TO THESE QUESTIONS. SPACESHIP FLIGHT CONTROL. IT CAN BE ACCOMPLISHED BY DIFFERENT MEANS AND METHODS. AT THE PRESENT DAY LEVEL OF TECHNOLOGY IT IS ENTIRELY ADMISSIBLE TO HAVE INDEPENDENT CONTROL, WITHOUT USING GROUND FACILITIES. HOWEVER, THIS METHOD HAS DEFINITE INADEQUACIES: LACK OF CONTINUOUS CHECKING ON THE COURSE OF IMPLEMENTATION OF THE FLIGHT MISSIONS, DIFFICULTY IN ROUTINE CORRECTION OF THE PROGRAM AND PERFORMANCE OF SOME OPERATIONS, WHOSE NECESSITY MAY BE DICTATED BY CONDITIONS. FINALLY, SUCH A METHOD MAKES IT POSSIBLE TO JUDGE THE RESULTS OF INVESTIGATIONS ONLY AFTER THE FLIGHT HAS ENDED. FOR MANY SPACE VEHICLES IT IS IRRATIONAL AND VIRTUALLY INAPPLICABLE. ANOTHER ALTERNATIVE IS THE COMMAND CONTROL METHOD IN WHICH EACH OPERATION ABOARD THE SPACE VEHICLE IS PERFORMED IN RESPONSE TO RADIO COMMANDS FROM THE EARTH. THIS METHOD IS EXTREMELY TIME CONSUMING AND IS VIRTUALLY FEASIBLE ONLY IN THE EFFECTIVE ZONE OF GROUND RADIO COMMAND EQUIPMENT. IT IS CONSIDERED MORE RELIABLE TO USE COMBINED CONTROL, IN WHICH IN ADDITION TO COMMANDS FROM THE EARTH INDEPENDENT ON BOARD COMMAND TIME AND PROGRAM TIME DEVICES ARE USED. THE USE OF THESE DEVICES MAKES IT POSSIBLE BY MEANS OF A SINGLE RADIO COMMAND SENT FROM THE EARTH TO PERFORM A SERIES OF ACTUATING OPERATIONS ON BOARD THE SHIP. THIS METHOD IS USED MOST BROADLY IN SPACE NAVIGATION.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

3/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--IN THIS CASE A GROUND COMMAND MEASURING POINT BECOMES AN INDISPENSABLE PART OF ANY SPACE SYSTEM, ENSURING THE NECESSARY CORRELATION OF GROUND AND ON BOARD RADIO ENGINEERING CONTROL EQUIPMENT. THE EQUIPMENT AND SERVICES OF THE GROUND COMMAND MEASURING COMPLEX, THE EYES AND EARS OF THE EARTH, ARE LOCATED IN DIFFERENT REGIONS OF THE COUNTRY IN THE FORM OF LATITUDINALLY AND LONGITUDINALLY SPACED STATIONS. THE NEED FOR THIS IS DICTATED BY A NUMBER OF CONDITIONS. THE FACT IS THAT FOR FLIGHTS OF SPACE VEHICLES LAUNCHED INTO ORBITS WITH ALTITUDES FROM 200 TO 1,000 KM THE ZONE OF RADIO VISIBILITY OF ONE GROUND STATION IS ONLY OF 7-15 MINUTES DURATION. IT GOES WITHOUT SAYING THAT THIS IS INADEQUATE FOR CONTINUOUS FLIGHT MONITORING AND CONTROL. THIS MEANS THAT IT IS NECESSARY TO HAVE NOT ONE, BUT SEVERAL STATIONS WHOSE ZONES OF RADIO VISIBILITY DO NOT OVERLAP. THEN THE TOTAL TIME OF RADIO MONITORING OF THE SPACE VEHICLE IS INCREASED. IN ADDITION, IN THE CASE OF OBSERVATIONS FROM A SINGLE POINT IT IS VERY DIFFICULT AND SOMETIMES SIMPLY IMPOSSIBLE TO ENSURE A SUFFICIENTLY HIGH ACCURACY IN DETERMINING ORBITAL ELEMENTS. THE PROBLEM IS SUBSTANTIALLY FACILITATED IF THE MEASUREMENTS ARE MADE FROM SEVERAL POINTS ON THE EARTH'S SURFACE. IN THIS CASE THE MEASUREMENT ACCURACY IS INCREASED WITH AN INCREASE IN THE SPACING OF THE STATIONS. THE COMMAND MEASURING POINTS CONSTITUTING THE GROUND COMMUNICATION AND CONTROL COMPLEX ARE FIXED AND MOVING. THE MOVING STATIONS ARE SITUATED FOR THE MOST PART ON SCIENTIFIC RESEARCH EXPEDITIONARY VESSELS.

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4/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--FOR EXAMPLE, FOR ENSURING SUPPORT FOR THE FLIGHT OF PROBES OF THE "VENERA" AND "MARS" TYPE SPECIALLY EQUIPPED SHIPS WERE SENT INTO THE ATLANTIC OCEAN AND THE MEDITERRANEAN SEA. THIS PROVIDED CONTINUITY IN MONITORING AND CONTROLLING THE AUTOMATIC PROBES WHEN THEY WERE PUT ON INTERPLANETARY TRAJECTORIES. RADIOELECTRONIC CONTROL EQUIPMENT WAS CARRIED, IN PARTICULAR, BY THE EXPEDITIONARY VESSELS OF THE ACADEMY OF SCIENCES USSR "KOSMONAVT VLADIMIR KOMAROV," "BEZHITSA," "MORZHOVETS," "RISTNA," "NEVEL'," "BOROVICHI," AND OTHERS. THE OPERATION OF MOVING COMMAND MEASURING STATIONS ALSO ACQUIRES GREAT IMPORTANCE IN CASES WHEN A LAUNCHED SPACESHIP OR VEHICLE LEAVES THE ZONES OF RADIO VISIBILITY FROM THE TERRITORY OF THE USSR. LET'S SAY THAT IN SUPPORTING THE FLIGHTS OF MANNED SHIPS OF THE "SOYUZ" TYPE INDIVIDUAL DAILY REVOLUTIONS PASS BEYOND THE LIMITS OF RADIO VISIBILITY FOR FIXED STATIONS. NATURALLY, UNDER THESE CONDITIONS MOVING STATIONS PLAY AN IMPORTANT ROLE IN ORGANIZING THE SEARCH FOR, RESCUE AND EVACUATION OF SHIPS WHICH HAVE LANDED IN OCEAN AREAS. AIRCRAFT EQUIPPED WITH THE NECESSARY RADIOELECTRONIC COMMUNICATIONS AND CONTROL EQUIPMENT ARE ALSO USED A SMOVING COMMAND MEASURING POINTS. MAKING FLIGHTS INTO STIPULATED REGIONS OF THE SOVIET UNION, THEY MAKE THE NECESSARY MEASUREMENTS, RECEIVE, PROCESS AND TRANSMIT REQUIRED INFORMATION TO THE CONTROL CENTER. IT IS ENTIRELY OBVIOUS THAT THE GROUND COMPLEX IS CREATED AS A UNIVERSAL SYSTEM CAPABLE OF INTERACTING WITH ALL TYPES OF LAUNCHED SPACE VEHICLES. ACCORDINGLY, IT IS SUPPLIED WITH EXCEEDINGLY VARIED TYPES OF RADIOELECTRONIC EQUIPMENT.

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5/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--SOME OF THIS IS DEISNGED FOR SOLVING PROBLEMS COMMON FOR ALL SPACE FLIGHT VEHICLES, REGARDLESS OF THEIR TYPE. THESE INCLUDE RADIOELECTRONIC SYSTEMS FOR ORBITAL MEASUREMENTS, RECEPTION AND REGISTRY OF TELEMETRIC INFORMATION, CONTROLLING THE OPERATION OF ON BOARD INSTRUMENTATION, COMMUNICATIONS AND A STANDARD TIME SERVICE. NATURALLY, SPECIAL EQUIPMENT IS REQUIRED FOR COLLECTING AND RECORDING METEOROLOGICAL INFORMATION COLLECTED BY SATELLITES OF THE "METEOR" TYPE AND RELAYING RADIOTELEGRAPHIC, RADIOTELEPHONIC AND TELEVISION COMMUNICATIONS HANDLED BY THE "MOLNIYA" SATELLITES. RADIOELECTRONIC EQUIPMENT OF GENERAL AND SPECIAL TYPES ARE RATHER CLOSELY FUNCTIONALLY RELATED TO ONE ANOTHER BECAUSE THE CONTROL OF FLIGHTS OF SPACE VEHICLES AND THEIR USE IN ACCORDANCE WITH SPECIFIC MISSIONS OCCUR SIMULTANEOUSLY. ALL THE LISTED RADIOELECTRONIC EQUIPMENT, DEPENDING ON ITS EFFECTIVE RANGE, FORMS TWO COMMAND COMPLEXES: NEAR AND DISTANT SPACE COMPLEXES. THE FIRST IS DESIGNED FOR CONTROLLING EARTH SATELLITES LAUNCHED INTO ORBITS WITH ALTITUDES FROM 200 TO 36,000 KM. SEVERER REQUIREMENTS ARE IMPOSED ON EQUIPMENT OF THE DISTANT SPACE COMPLEX. IT IS UNDERSTANDABLE THAT IN THIS CASE THERE MUST BE STABLE COMMUNICATION OVER DISTANCES OF TENS AND HUNDREDS OF MILLIONS OF KILOMETERS. OVER SUCH DISTANCES RADIO SIGNALS REACH THE EARTH CONSIDERABLY ATTENUATED AND AT TIMES IT IS DIFFICULT TO DISCRIMINATE THEM FROM GALACTIC RADIO NOISE. IN ORDER TO DISCRIMINATE AND AMPLIFY SUCH AN INSIGNIFICANT USEFUL RADIO SIGNAL THERE ARE SPECIAL GIGANTIC ANTENNA SYSTEMS, SPECIAL MOLECULAR AND PARAMETRIC AMPLIFIERS AND COMPLEX SYSTEMS OF NARROW BAND FILTERS.

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6/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--THE DISTANT SPACE COMPLEX HAS A NUMBER OF OTHER PECULIARITIES WHICH EXERT A SUBSTANTIAL EFFECT ON ITS WORK STRUCTURE AND ORGANIZATION. THESE FOLLOW FROM THE NATURE OF THE MOTION OF A SPACE VEHICLE IN DISTANT SPACE AND THE EARTH'S DIURNAL ROTATION. AT DISTANCES EXCEEDING HUNDREDS OF THOUSANDS OF KILOMETERS THE APPARENT MOTION OF A VEHICLE THROUGH THE HEAVENS RESEMBLES THE MOTION OF THE PLANETS. THEIR ANGULAR VELOCITIES OF MOTION ARE CLOSE TO 15DEGREES PER HOUR. THE GREAT DISTANCES AND THE SMALL ANGULAR VELOCITIES OF MOTION THROUGH THE HEAVENS CONSIDERABLY INCREASE THE ZONES OF RADIO VISIBILITY OF THE PROBE FROM THE EARTH. IT GOES WITHOUT SAYING THAT UNDER THESE CONDITIONS THERE IS NO NEED TO USE A GREAT NUMBER OF COMMAND MEASURING STATIONS. IT IS SUFFICIENT TO HAVE TWO, AND EVEN FOR A SAFETY FACTOR NOT MORE THAN FOUR, BUT SITUATED AT DIAMETRICALLY OPPOSITE POINTS ON THE EARTH. THE ENTIRE COMBINATION OF FLIGHT VEHICLES PRESENT IN SPACE AND MOVING IN STRICTLY DETERMINED ORBITS FORMS A SPACE "PICTURE". IT CONSTANTLY CHANGES IN DEPENDENCE ON THE TIMES OF ACTIVE EXISTENCE AND THE NUMBER OF OBJECTS. CONTROL OF ALL THESE OBJECTS IS ACHIEVED USING A PERIODICALLY REVISED GRAPH. THIS DETERMINES THE MAKEUP OF THE NECESSARY EQUIPMENT FOR THE GROUND COMPLEX USED FOR EACH VEHICLE ACTIVELY FUNCTIONING IN SPACE. THE CONSTANT MONITORING OF THE STATUS OF ANY SATELLITE OR MANNED SHIP AND THE OPERATION OF GROUND COMMUNICATION AND CONTROL EQUIPMENT IS PERFORMED BY APPROPRIATE WORKING GROUPS AT THE FLIGHT CONTROL CENTER.

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7/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--NATURALLY, IN ALL THE HIGHLY VARIED WORK IN MONITORING SPACE FLIGHTS A DECISIVE ROLE IS PLAYED BY THOSE PERSONS AND SPECIALISTS WHO TIRELESSLY WORK AT THE CONTROL PANELS AT THE GROUND COMMAND MEASURING COMPLEX. THIS IS HIGHLY RESPONSIBLE WORK. THIS IS TRUE BECAUSE LOSS OF COMMUNICATION WITH A FLIGHT VEHICLE, EVEN TEMPORARILY, ERRORS IN SENDING COMMANDS, DISTORTION OR RECEPTION OF INCORRECT INFORMATION FROM THE VEHICLE CAN LEAD TO SERIOUS CONSEQUENCES. THE FURTHER DEVELOPMENT OF SPACE NAVIGATION IS INTIMATELY RELATED TO THE DEVELOPMENT OF GROUND CONTROL AND COMMUNICATION FACILITIES. THEY ARE CONSTANTLY BEING BOLSTERED BY MORE AND MORE PERFECT AND RELIABLE SYSTEMS AND EQUIPMENT. THOSE ACHIEVEMENTS IN THE EXPLORATION AND MASTERY OF SPACE WHICH HAVE ALREADY TAKEN PLACE AND WHICH WILL TAKE PLACE IN THE FUTURE WOULD BE IMPOSSIBLE WITHOUT THIS.

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AA0040703 DMITRIYEV G.D. UR 0482 1

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

240681 OBSERVATION OF HIGH-TEMPERATURE PROCESSES, e.g. in equipment for growing single crystals of semi-conductor compounds containing a volatile component, is improved by eliminating the effect of convective gas flows on the observations. In the case of hermetically-sealed vessels made of opaque material, with an optical quartz window in a branch pipe, a heated tube is installed in the branch pipe and sealed at the ends with sheets of optically-transparent material. Heating of materials to above 500°C in the vessel is possible without interference to observation.
2.8.67 as 1177543/22-1. L.YA.KROL' et all. STATE SCIENTIFIC RES. & DES. INST. OF THE RARE-METALS IND. (11.9.69) Bul 13/1.4.69. Class 12g. Int.Cl.B 01j.

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AA0040703

AUTHORS: Krol', L. Ya.; Matveyev, V. S.; Nashel'skiy, A. Ya.; Kuz'min, V. N.; and Dmitriyev, G. D.

Gosudarstvennyy Nauchno - Issledovatel'skiy i Proyektnyy Institut Redkometallicheskoy Promyshlennosti

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USSR

UDC 621.43.011:533+621.5:533

KHZMALYAN, D. M., IZYUMOV, M. A., DMITRIYEV, G. G.

"Methods for Calculating Velocities in a System of Plane-Parallel Jets in a Bounded Space"

Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. Mosk. energ. in-t, 1970. Sekts. Energomashinostroitel'naya. Podsekts. Parogeneratorostroyeniya (Papers of the Scientific-Technical Conference on Achievements in Scientific Research Work in 1968-1969. Moscow Power Engineering Institute, 1970. Power Machine Building Section. Steam Generator Building Subsection), Moscow, 1969, pp 57-60 (from RZh-Mekhanika, No 4, Apr 70, Abstract No 4B453)

Translation: The basic assumptions of the technique for calculating the characteristics of a system of turbulent jets spreading into a bounded space are presented. A system of equations consisting of Reynolds equations, continuity equations, and conditions for constant pulse and flow was used for the calculation. The calculation was carried out for characteristic segments of the flow. Solutions of the system are given in closed form

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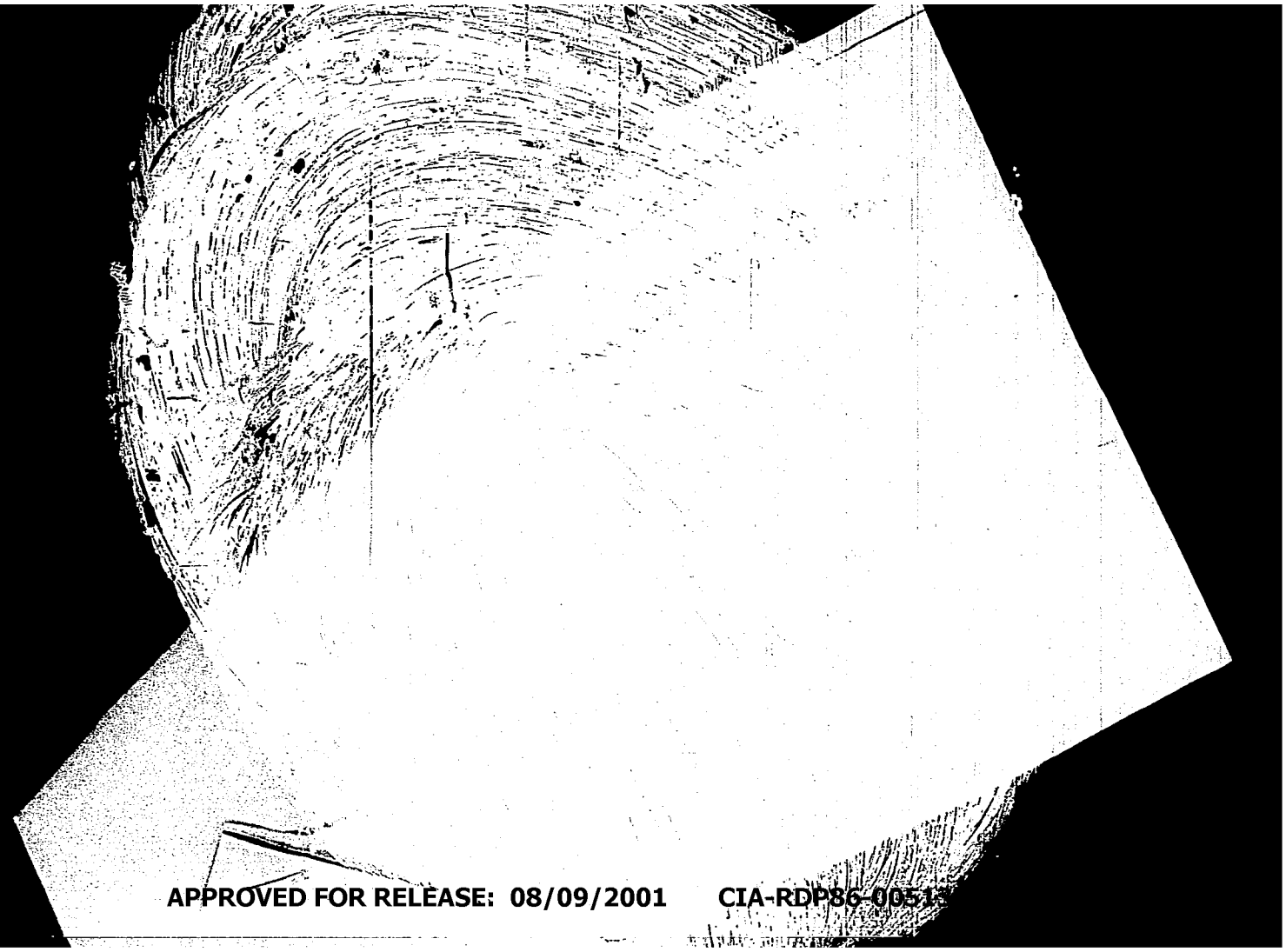

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UDC: 531.55:521.1

USSR

DMITRIYEV, G. N.

"On a Three-Degree Gyroscope With Elastic Rotor Suspension"

Tr. Kazan. aviats. in-ta (Works of Kazan' Aviation Institute), 1971, vyp. 138, pp 58-64 (from RZh-Mekhanika, No 7, Jul 72, Abstract No 7A93)

Translation: The paper deals with motion of a gyroscope with elastic rotor suspension mounted on a movable base. It is shown that there is no systematic drift of the gyroscope resulting from constant disturbing moments acting over the rotor suspension axes, centrifugal moments of inertia, displacement of the centers of mass of the ring and rotor in the equatorial plane, or the component of acceleration of motion of the base directed along the axis of the drive shaft. Author's abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR UDC: 531.383+62--752.4

ARUTYUNOV, S. S. and DMITRIYEV, G. N.

"Howe Gyroscope on a Uniformly Rotating Base"

Leningrad, Priborostroyeniye, No 2, 1972, pp 80-84

Abstract: Assuming that a Howe gyroscope is set up on a base rotating at constant velocity around an axis perpendicular to the drive axis, the authors analyze the possibility of designing a free gyroscope based on the Howe design. The equation of motion of the system is derived from the Lagrangian equations of the second kind under the assumption that the moment of the resistance at the drive shaft is balanced by the rotational moment. The problem of whether the parameters of the Howe gyroscope can be chosen such that, with the base rotating, the longitudinal axis of the rotor shaft maintains its position in space making only small periodic oscillations, is solved. Three possible conditions of the gyroscope's motion are examined. The authors, members of the Kazan Aviation Institute, find that forced motions of the Howe gyroscope cannot be completely eliminated.

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USSR UDC: 621.376.55(088.8)

DMITRIYEV, I. P., PRIBYLOV, B. A.

"A Pulse Modulator"

USSR Author's Certificate No 277837, filed 22 Nov 68, published 3 Nov 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D325 P)

Translation: A pulse modulator is proposed which contains a DC voltage source, a charging element (e. g. a choke), a separation diode, a commutator based on a thyratron, an ignition pulse oscillator, an accumulator in the form of an artificial line, and a load. To ensure pulse-code operating conditions with respect to the pulse length with simultaneous amplitude stabilization, the modulator is equipped with additional semiconductor diodes whose anodes are connected to the common terminal of the charging circuit, while the cathodes of each of the semiconductor diodes are connected to the output of the individual cells which make up the accumulator. V. P.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CALCULATION OF EFFECTIVE CROSS SECTIONS OF K ELECTRON LOSS BY FAST HYDROGEN LIKE IONS DURING A COLLISION WITH NITROGEN ATOMS -U-

AUTHOR-(04)-SENASHENKO, V.S., NIKOLAYEV, V.S., SHAFER, V.YU., DMITRIYEV, I.S.

COUNTRY OF INFO--USSR

SOURCE--VESTN. MOSK. UNIV., FIZ., ASTRON. 1970, 11(2), 136-45

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--NUCLEAR CROSS SECTION, HYDROGEN, NITROGEN, NUCLEAR COLLISION, ELECTRON LOSS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3009/0093 STEP NO--UR/0188/70/011/002/0136/0145

CIRC ACCESSION NO--AP0138958

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138958

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING A NONRELATIVISTIC BORN APPROXN., THE CROSS SECTIONS ARE CALCD. OF K-E LOSS BY FAST H LIKE IONS OF ARBITRARY ELEMENTS DURING COLLISION WITH N ATOMS. SIMPLE APPROX. FORMULAS ARE FOUND FOR THE EFFECTIVE CROSS SECTIONS IN LIMITING CASES. THE THEORETICAL RESULTS ARE COMPARED WITH EXPTL. ONES.

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DMITRIYEV, K. I.

SO: JPRS 60634
27 NOVEMBER 1973

EXPERIMENTAL STUDY OF THE MAGNETOHYDRODYNAMIC FLOW OF A LIQUID-METAL IN A RECTANGULAR DUCT WITH CONDUCTING WALLS

[Article by K. I. Dmitriyev, Yu. M. Mikhaylov and Y. S. Presnyakov, Order of Lenin Atomic Energy Institute imeni I. V. Kurchatov, Moscow, USSR; Salzburg, IAEA Symposium on Electricity from MHD, 1966, pp 547-557]

Results are presented from an experimental study of laminar and turbulent magnetohydrodynamic flow of liquid sodium in a rectangular duct with conducting walls. The studies were made on a specially equipped sodium loop. The purpose of the studies was to determine the losses in the walls and the magnetohydrodynamic losses in the different regimes of movement of the metal.

A study was made of the magnetohydrodynamic flow of a conducting liquid in the rectangular duct of a magnetohydrodynamic generator with conducting walls for metal velocities to 30 m/sec. In a long channel the analysis was made of the pressure losses without load as a function of the flow parameters. The contribution of the losses in the walls and the magnetohydrodynamic losses to the total losses is determined. The efficiency of conversion of the kinetic energy into electric energy with different duct parameters was investigated in a short duct.

From the point of view of improving the efficiency of the complete cycle of the magnetohydrodynamic conversion system in a liquid metal, magnetohydrodynamic generators with high metal temperature in the operating zone of the generator (600-800°C) are preferable. The creation of such generators encounters highly significant difficulties of manufacturing the insulated walls or coverings operating at temperatures on the order of 700°C and with metal velocities of 50-100 m/sec. Along with the search for means of solving this problem it is of interest to investigate ordinary generators for which the upper and lower walls were made of stainless steel, and the side walls, electrodes.

The most significant feature of such generators is the significant pressure losses at idle which are accumulated from the losses caused by currents in the walls and losses connected with the effect of the magnetic field

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USSR UDC 547.754:543.422.4:541.67

GRANDBERG, I. I., BELYAYEVA, L. D., and DMITRIYEV, L. B., Moscow Agricultural Academy Imeni K. A. Timiryazev

"Indoles. XXXV. Preparation of 4-Nitro- and 6-Nitroindoles Forming During Cyclization of m-Nitrophenylhydrazones in Fischer Reaction"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 1, Jan 73, pp 37-39

Abstract: Cyclization of diethyl ketone m-nitrophenylhydrazone was studied under various conditions, always leading to a mixture of 4-nitro-3-methyl-2-ethylindole and 6-nitro-3-methyl-2-ethylindole, the first compound forming in slight excess. The ratio of the isomers depends on the catalyst used. In general, the results support the mechanism of intramolecular electrophilic substitution. The nitrogroup exhibits a strong I- and M-effects. The I-effect deactivates the ortho position, but the mesomeric polarization specifically deactivates the para-position. During the cyclization of the m-substituted phenylhydrazones, steric factors will always favor the formation of 6-isomer, regardless of the electronic nature of the substituent. For example, cyclization of the m-nitrophenylhydrazone of methylisopropyl ketone yields 6-nitro-2,3,3-trimethylindolenine exclusively.
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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

DMITRIYEV, V.D.

RADIATION - STEEL

JPRS 60973

14 January 1974

(6)

UDC: 621.039.531:669.012.8

RADIATION SWELLING OF STEEL OKh16N9T

[Article by V.N. Bykov, A.G. Vakhtin, V.D. Dmitriyev, L.G. Kontromain, A. Ya. Ladygin, V.I. Shchetkin, Moscow, Atomnaya Energiya, Russian, Vol 35, No 4, 1973, submitted 8 January 1973, pp 235-237]

Many works pertaining to the investigation of the radiation strength of austenitic steels after irradiation in fast reactors and ion bombardment in accelerators [1, 2] have been published in recent times. The swelling of types 304 and 316 stainless steel has been subjected to most thorough investigation. Information on the swelling of OKh16N9T steel is limited to data for individual temperatures and integral doses [3]. The results of electron-microscopic analysis of the radiation porosity of OKh16N9T steel are presented in this article.

Experimental Material and Technique

The specimens for electron-microscopic analysis were discs 3.5 mm in diameter and 0.4 mm thick, cut from various fuel element jackets made of OKh16N9T steel and irradiated with integral fluxes of up to $4.4 \cdot 10^{22}$ neutron/cm^2 in the 430-590°C temperature range. The method of thinning of the specimens in a stream of electrolyte (60% H_3PO_4 + 40% H_2SO_4) is described in [4].

Processing of the results was accomplished directly from the negatives with the aid of an instrumental microscope. The measurement error of cavity diameters was 20 Å. The concentration of the pores in the specimen was determined by measuring at least 600 cavities in a specimen with a thickness of 1,500 Å. The summary error of determination of the swelling of the material was 50%, but the scattering of the values from the arithmetic mean value for several measurements of the same specimen did not exceed 20%.

Investigation of the Swelling of OKh16N9T Steel

Electron-microscopic analyses of the specimens revealed pores, homogeneously distributed through the body of the grain, the concentration

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CIRC ACCESSION NO--AP0123530 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. "SOYUZ 9" HAS BEEN CONTINUING ON ITS FLIGHT FOR THE 13TH DAY AND THE GROUND CONTROL CENTERS HAVE BEEN CONTINUING ON THEIR WATCH DURING ALL THIS TIME. THE SOVIET "SOYUZ 9" SPACESHIP HAS COMPLETED 200 ORBITS AND COVERED EIGHT MILLION 300 KILOMETERS. THERE ARE DIFFERENT TYPES OF BLACK AND WHITE SPECTRO ZONAL AND COLOR FILMS ON BOARD THE "SOYUZ 9". THEY HAVE BEEN SELECTED IN SUCH A WAY THAT IN MAKING PHOTOGRAPHS OF DIFFERENT LANDSCAPES FROM SPACE THEY MAKE IT POSSIBLE TO SPOT ITS CHARACTERISTIC FEATURES: VEGETATION, ROCK OR SOIL, FOR EXAMPLE. SIMULTANEOUSLY WITH PHOTOGRAPHS THE EARTH'S SURFACE, ANDRIAN NIKOLAEV CARRIED OUT SPECTRAMETRIC RESEARCH OF TERRESTRIAL ATMOSPHERE AND THE SURFACE OF THE PLANET. FOR PHOTOGRAPING THEY USED SPECIALLY SELECTED SPECTROZONAL, DOUBLE LAYER AND SENSITIVE TO CERTAIN SPECTRAL ZONES, FILMS WITH THE USE OF LIGHT FILTERS. THIS PERMITTED TO DISTINGUISH THE NARROW ZONE OF THE VISIBLE OR THE INFRARED SECTION OF THE SPECTRUM, FOR EXAMPLE, BLUE, ORANGE, AND RED RAYS. THE DENSITY OF THE RECEIVED NEGATIVES WILL MAKE IT POSSIBLE TO EVALUATE IN GROUND LABORATORIES THE BRIGHTNESS CHARACTERSITICS OF DIFFERENT TERRESTRIAL ROCKS: LIMESTONES, BASALTS, GRANITES, CLAYS, AND SAND SOILS. SCIENTISTS HOPE THAT IN FUTURE SUCH PHOTOGRAPHY FROM SPACE WILL ENABLE THEM TO SPECIFY THE MINEROLOGICAL COMPOSITION OF SOME CELESTIAL BODIES OF THE SOLAR SYSTEM. SPACE SURVEY AND MAPPING WILL MAKE IT POSSIBLE WITH TIME TO ESTIMATE THE GENERAL CONTENT OF MOISTURE IN GLACIERS. IT IS PLANNED TO USE SPACE SURVEY IN SEARCH FOR FISH SHOALS AND SEA MAMMALS IN OCEANS.

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CIRC ACCESSION NO--AP0123530 PROCESSING DATE--23OCT70

ABSTRACT/EXTRACT--IT WILL PROBABLY BECOME POSSIBLE WITH TIME TO ESTIMATE FROM SPACE THE TOTAL RESERVES OF MERCHANTABLE TIMBER IN FORESTS, SPECIFY THE EDGE OF ICE FIELDS IN THE ARCTIC AND ANTARCTIC, SET UP A PERMANENT OBSERVATION SERVICE FOR THE PROCESSES OF THEIR MELTING AND FORMATION. IN A WORD, AS EXPERTS SAID, EXPERIMENTS CARRIED OUT WITH THE HELP OF SURVEYING EQUIPMENT WILL, PROBABLY, BE OF GREAT SIGNIFICANCE FOR THE DEVELOPMENT OF SPACE PHOTOGRAPHY IN THE INTERESTS OF NATIONAL ECONOMY AND SCIENCE.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--EYES AND EARS OF THE EARTH, PROBLEMS INVOLVED IN SPACESHIP TRACKING -U-

AUTHOR--DMITRIYEV, G.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, KRASNAYA ZVEZDA, 12 JUNE 1970, P 2

DATE PUBLISHED--12JUN70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR, SPACE TECHNOLOGY, NAVIGATION

TOPIC TAGS--OCEANOGRAPHIC SHIP, SPACECRAFT CONTROL, FLIGHT CONTROL SYSTEM, SPACE NAVIGATION, GROUND COMMUNICATION EQUIPMENT, SPACECRAFT TRACKING, METEOROLOGIC SATELLITE/(U)METEOR METEOROLOGIC SATELLITE, (U)MOLNIYA 1 SATELLITE, (U)BOROVICHI OCEANOGRAPHIC SHIP, (U)NEVEL OCEANOGRAPHIC SHIP, (U)RISTNA OCEANOGRAPHIC SHIP, (U)MORZHOVETS OCEANOGRAPHIC SHIP,

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1627 STEP NO--UR/9008/70/000/000/0002/0002

CIRC ACCESSION NO--AN0131962

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. "HOW IS THE CONTROL OF SPACESHIP FLIGHT HANDLED?" "EXACTLY WHAT IS MEANT BY THE TERM 'COMMAND MEASURING COMPLEX'?" . THESE ARE QUESTIONS DIRECTED TO THE EDITORS BY READERS Z. SHABAN AND K. OSOKIN. BELOW WE PUBLISH AN ARTICLE WHICH GIVES ANSWERS TO THESE QUESTIONS. SPACESHIP FLIGHT CONTROL. IT CAN BE ACCOMPLISHED BY DIFFERENT MEANS AND METHODS. AT THE PRESENT DAY LEVEL OF TECHNOLOGY IT IS ENTIRELY ADMISSIBLE TO HAVE INDEPENDENT CONTROL, WITHOUT USING GROUND FACILITIES. HOWEVER, THIS METHOD HAS DEFINITE INADEQUACIES: LACK OF CONTINUOUS CHECKING ON THE COURSE OF IMPLEMENTATION OF THE FLIGHT MISSIONS, DIFFICULTY IN ROUTINE CORRECTION OF THE PROGRAM AND PERFORMANCE OF SOME OPERATIONS, WHOSE NECESSITY MAY BE DICTATED BY CONDITIONS. FINALLY, SUCH A METHOD MAKES IT POSSIBLE TO JUDGE THE RESULTS OF INVESTIGATIONS ONLY AFTER THE FLIGHT HAS ENDED. FOR MANY SPACE VEHICLES IT IS IRRATIONAL AND VIRTUALLY INAPPLICABLE. ANOTHER ALTERNATIVE IS THE COMMAND CONTROL METHOD IN WHICH EACH OPERATION ABOARD THE SPACE VEHICLE IS PERFORMED IN RESPONSE TO RADIO COMMANDS FROM THE EARTH. THIS METHOD IS EXTREMELY TIME CONSUMING AND IS VIRTUALLY FEASIBLE ONLY IN THE EFFECTIVE ZONE OF GROUND RADIO COMMAND EQUIPMENT. IT IS CONSIDERED MORE RELIABLE TO USE COMBINED CONTROL, IN WHICH IN ADDITION TO COMMANDS FROM THE EARTH INDEPENDENT ON BOARD COMMAND TIME AND PROGRAM TIME DEVICES ARE USED. THE USE OF THESE DEVICES MAKES IT POSSIBLE BY MEANS OF A SINGLE RADIO COMMAND SENT FROM THE EARTH TO PERFORM A SERIES OF ACTUATING OPERATIONS ON BOARD THE SHIP. THIS METHOD IS USED MOST BROADLY IN SPACE NAVIGATION.

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3/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--IN THIS CASE A GROUND COMMAND MEASURING POINT BECOMES AN INDISPENSABLE PART OF ANY SPACE SYSTEM, ENSURING THE NECESSARY CORRELATION OF GROUND AND ON BOARD RADIO ENGINEERING CONTROL EQUIPMENT. THE EQUIPMENT AND SERVICES OF THE GROUND COMMAND MEASURING COMPLEX, THE EYES AND EARS OF THE EARTH, ARE LOCATED IN DIFFERENT REGIONS OF THE COUNTRY IN THE FORM OF LATITUDINALLY AND LONGITUDINALLY SPACED STATIONS. THE NEED FOR THIS IS DICTATED BY A NUMBER OF CONDITIONS. THE FACT IS THAT FOR FLIGHTS OF SPACE VEHICLES LAUNCHED INTO ORBITS WITH ALTITUDES FROM 200 TO 1,000 KM THE ZONE OF RADIO VISIBILITY OF ONE GROUND STATION IS ONLY OF 7-15 MINUTES DURATION. IT GOES WITHOUT SAYING THAT THIS IS INADEQUATE FOR CONTINUOUS FLIGHT MONITORING AND CONTROL. THIS MEANS THAT IT IS NECESSARY TO HAVE NOT ONE, BUT SEVERAL STATIONS WHOSE ZONES OF RADIO VISIBILITY DO NOT OVERLAP. THEN THE TOTAL TIME OF RADIO MONITORING OF THE SPACE VEHICLE IS INCREASED. IN ADDITION, IN THE CASE OF OBSERVATIONS FROM A SINGLE POINT IT IS VERY DIFFICULT AND SOMETIMES SIMPLY IMPOSSIBLE TO ENSURE A SUFFICIENTLY HIGH ACCURACY IN DETERMINING ORBITAL ELEMENTS. THE PROBLEM IS SUBSTANTIALLY FACILITATED IF THE MEASUREMENTS ARE MADE FROM SEVERAL POINTS ON THE EARTH'S SURFACE. IN THIS CASE THE MEASUREMENT ACCURACY IS INCREASED WITH AN INCREASE IN THE SPACING OF THE STATIONS. THE COMMAND MEASURING POINTS CONSTITUTING THE GROUND COMMUNICATION AND CONTROL COMPLEX ARE FIXED AND MOVING. THE MOVING STATIONS ARE SITUATED FOR THE MOST PART ON SCIENTIFIC RESEARCH EXPEDITIONARY VESSELS.

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4/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--FOR EXAMPLE, FOR ENSURING SUPPORT FOR THE FLIGHT OF PROBES OF THE "VENERA" AND "MARS" TYPE SPECIALLY EQUIPPED SHIPS WERE SENT INTO THE ATLANTIC OCEAN AND THE MEDITERRANEAN SEA. THIS PROVIDED CONTINUITY IN MONITORING AND CONTROLLING THE AUTOMATIC PROBES WHEN THEY WERE PUT ON INTERPLANETARY TRAJECTORIES. RADIOELECTRONIC CONTROL EQUIPMENT WAS CARRIED, IN PARTICULAR, BY THE EXPEDITIONARY VESSELS OF THE ACADEMY OF SCIENCES USSR "KOSMONAVT VLADIMIR KONAROV," "BEZHITSA," "MORZHOVETS," "RISTNA," "NEVEL'," "BOROVICHI," AND OTHERS. THE OPERATION OF MOVING COMMAND MEASURING STATIONS ALSO ACQUIRES GREAT IMPORTANCE IN CASES WHEN A LAUNCHED SPACESHIP OR VEHICLE LEAVES THE ZONES OF RADIO VISIBILITY FROM THE TERRITORY OF THE USSR. LET'S SAY THAT IN SUPPORTING THE FLIGHTS OF MANNED SHIPS OF THE "SOYUZ" TYPE INDIVIDUAL DAILY REVOLUTIONS PASS BEYOND THE LIMITS OF RADIO VISIBILITY FOR FIXED STATIONS. NATURALLY, UNDER THESE CONDITIONS MOVING STATIONS PLAY AN IMPORTANT ROLE IN ORGANIZING THE SEARCH FOR, RESCUE AND EVAUCATION OF SHIPS WHICH HAVE LANDED IN OCEAN AREAS. AIRCRAFT EQUIPPED WITH THE NECESSARY RADIOELECTRONIC COMMUNICATIONS AND CONTROL EQUIPMENT ARE ALSO USED A SMOVING COMMAND MEASURING POINTS. MAKING FLIGHTS INTO STIPULATED REGIONS OF THE SOVIET UNION, THEY MAKE THE NECESSARY MEASUREMENTS, RECEIVE, PROCESS AND TRANSMIT REQUIRED INFORMATION TO THE CONTROL CENTER. IT IS ENTIRELY OBVIOUS THAT THE GROUND COMPLEX IS CREATED AS A UNIVERSAL SYSTEM CAPABLE OF INTERACTING WITH ALL TYPES OF LAUNCHED SPACE VEHICLES. ACCORDINGLY, IT IS SUPPLIED WITH EXCEEDINGLY VARIED TYPES OF RADIOELECTRONIC EQUIPMENT.

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5/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--SOME OF THIS IS DEISNGED FOR SOLVING PROBLEMS COMMON FOR ALL SPACE FLIGHT VEHICLES, REGARDLESS OF THEIR TYPE. THESE INCLUDE RADIOELECTRONIC SYSTEMS FOR ORBITAL MEASUREMENTS, RECEPTION AND REGISTRY OF TELEMETRIC INFORMATION, CONTROLLING THE OPERATION OF ON BOARD INSTRUMENTATION, COMMUNICATIONS AND A STANDARD TIME SERVICE. NATURALLY, SPECIAL EQUIPMENT IS REQUIRED FOR COLLECTING AND RECORDING METEOROLOGICAL INFORMATION COLLECTED BY SATELLITES OF THE "METEOR" TYPE AND RELAYING RADIOTELEGRAPHIC, RADIOTELEPHONIC AND TELEVISION COMMUNICATIONS HANDLED BY THE "MOLNIYA" SATELLITES. RADIOELECTRONIC EQUIPMENT OF GENERAL AND SPECIAL TYPES ARE RATHER CLOSELY FUNCTIONALLY RELATED TO ONE ANOTHER BECAUSE THE CONTROL OF FLIGHTS OF SPACE VEHICLES AND THEIR USE IN ACCORDANCE WITH SPECIFIC MISSIONS OCCUR SIMULTANEOUSLY.

ALL THE LISTED RADIOELECTRONIC EQUIPMENT, DEPENDING ON ITS EFFECTIVE RANGE, FORMS TWO COMMAND COMPLEXES: NEAR AND DISTANT SPACE COMPLEXES. THE FIRST IS DESIGNED FOR CONTROLLING EARTH SATELLITES LAUNCHED INTO ORBITS WITH ALTITUDES FROM 200 TO 36,000 KM. SEVERER REQUIREMENTS ARE IMPOSED ON EQUIPMENT OF THE DISTANT SPACE COMPLEX. IT IS UNDERSTANDABLE THAT IN THIS CASE THERE MUST BE STABLE COMMUNICATION OVER DISTANCES OF TENS AND HUNDREDS OF MILLIONS OF KILOMETERS. OVER SUCH DISTANCES RADIO SIGNALS REACH THE EARTH CONSIDERABLY ATTENUATED AND AT TIMES IT IS DIFFICULT TO DISCRIMINATE THEM FROM GALACTIC RADIO NOISE. IN ORDER TO DISCRIMINATE AND AMPLIFY SUCH AN INSIGNIFICANT USEFUL RADIO SIGNAL THERE ARE SPECIAL GIGANTIC ANTENNA SYSTEMS, SPECIAL MOLECULAR AND PARAMETRIC AMPLIFIERS AND COMPLEX SYSTEMS OF NARROW BAND FILTERS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

6/7 064 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AN0131962

ABSTRACT/EXTRACT--THE DISTANT SPACE COMPLEX HAS A NUMBER OF OTHER PECULIARITIES WHICH EXERT A SUBSTANTIAL EFFECT ON ITS WORK STRUCTURE AND ORGANIZATION. THESE FOLLOW FROM THE NATURE OF THE MOTION OF A SPACE VEHICLE IN DISTANT SPACE AND THE EARTH'S DIURNAL ROTATION. AT DISTANCES EXCEEDING HUNDREDS OF THOUSANDS OF KILOMETERS THE APPARENT MOTION OF A VEHICLE THROUGH THE HEAVENS RESEMBLES THE MOTION OF THE PLANETS. THEIR ANGULAR VELOCITIES OF MOTION ARE CLOSE TO 15DEGREES PER HOUR. THE GREAT DISTANCES AND THE SMALL ANGULAR VELOCITIES OF MOTION THROUGH THE HEAVENS CONSIDERABLY INCREASE THE ZONES OF RADIO VISIBILITY OF THE PROBE FROM THE EARTH. IT GOES WITHOUT SAYING THAT UNDER THESE CONDITIONS THERE IS NO NEED TO USE A GREAT NUMBER OF COMMAND MEASURING STATIONS. IT IS SUFFICIENT TO HAVE TWO, AND EVEN FOR A SAFETY FACTOR NOT MORE THAN FOUR, BUT SITUATED AT DIAMETRICALLY OPPOSITE POINTS ON THE EARTH. THE ENTIRE COMBINATION OF FLIGHT VEHICLES PRESENT IN SPACE AND MOVING IN STRICTLY DETERMINED ORBITS FORMS A SPACE "PICTURE". IT CONSTANTLY CHANGES IN DEPENDENCE ON THE TIMES OF ACTIVE EXISTENCE AND THE NUMBER OF OBJECTS. CONTROL OF ALL THESE OBJECTS IS ACHIEVED USING A PERIODICALLY REVISED GRAPH. THIS DETERMINES THE MAKEUP OF THE NECESSARY EQUIPMENT FOR THE GROUND COMPLEX USED FOR EACH VEHICLE ACTIVELY FUNCTIONING IN SPACE. THE CONSTANT MONITORING OF THE STATUS OF ANY SATELLITE OR MANNED SHIP AND THE OPERATION OF GROUND COMMUNICATION AND CONTROL EQUIPMENT IS PERFORMED BY APPROPRIATE WORKING GROUPS AT THE FLIGHT CONTROL CENTER.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

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CIRC ACCESSION NO--AN0131962 PROCESSING DATE--13NOV70

ABSTRACT/EXTRACT--NATURALLY, IN ALL THE HIGHLY VARIED WORK IN MONITORING SPACE FLIGHTS A DECISIVE ROLE IS PLAYED BY THOSE PERSONS AND SPECIALISTS WHO TIRELESSLY WORK AT THE CONTROL PANELS AT THE GROUND COMMAND MEASURING COMPLEX. THIS IS HIGHLY RESPONSIBLE WORK. THIS IS TRUE BECAUSE LOSS OF COMMUNICATION WITH A FLIGHT VEHICLE, EVEN TEMPORARILY, ERRORS IN SENDING COMMANDS, DISTORTION OR RECEPTION OF INCORRECT INFORMATION FROM THE VEHICLE CAN LEAD TO SERIOUS CONSEQUENCES. THE FURTHER DEVELOPMENT OF SPACE NAVIGATION IS INTIMATELY RELATED TO THE DEVELOPMENT OF GROUND CONTROL AND COMMUNICATION FACILITIES. THEY ARE CONSTANTLY BEING BOLSTERED BY MORE AND MORE PERFECT AND RELIABLE SYSTEMS AND EQUIPMENT. THOSE ACHIEVEMENTS IN THE EXPLORATION AND MASTERY OF SPACE WHICH HAVE ALREADY TAKEN PLACE AND WHICH WILL TAKE PLACE IN THE FUTURE WOULD BE IMPOSSIBLE WITHOUT THIS.

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AA0040703 DMITRIYEV G.D. UR 0482 1

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

240681 OBSERVATION OF HIGH-TEMPERATURE PROCESSES, e.g. in equipment for growing single crystals of semi-conductor compounds containing a volatile component, is improved by eliminating the effect of convective gas flows on the observations. In the case of hermetically-sealed vessels made of opaque material, with an optical quartz window in a branch pipe, a heated tube is installed in the branch pipe and sealed at the ends with sheets of optically-transparent material. Heating of materials to above 500°C in the vessel is possible without interference to observation.
2.8.67 as 1177543/22-1. L.YA.KROL' et ali. STATE SCIENTIFIC RES. & DES. INST. OF THE RARE-METALS IND. (11.9.69) Bul 13/1.4.69. Class 12g. Int.Cl.B 01j.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

AA0040703

AUTHORS: Krol', L. Ya.; Matveyev, V. S.; Nashel'skiy, A. Ya.; Kuz'min, V. N.; and Dmitriyev, G. D.

Gosudarstvennyy Nauchno - Issledovatel'skiy i Proyektnyy Institut Redkometallicheskoy Promyshlennosti

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138958

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING A NONRELATIVISTIC BORN APPROXN., THE CROSS SECTIONS ARE CALCD. OF K-E LOSS BY FAST H LIKE IONS OF ARBITRARY ELEMENTS DURING COLLISION WITH N ATOMS. SIMPLE APPROX. FORMULAS ARE FOUND FOR THE EFFECTIVE CROSS SECTIONS IN LIMITING CASES. THE THEORETICAL RESULTS ARE COMPARED WITH EXPTL. ONES.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

SO: JPRS 60,634
27 NOVEMBER 1973

DMITRIYEV, K. I.

EXPERIMENTAL STUDY OF THE MAGNETOHYDRODYNAMIC FLOW OF A LIQUID-METAL IN A RECTANGULAR DUCT WITH CONDUCTING WALLS

[Article by K. I. Dmitriyev, Yu. M. Mikheyley and V. S. Pravnyakova, Order of Lenin Atomic Energy Institute imeni I. V. Kurchatov, Moscow, USSR; Salzburg, IAEA Symposium on Electricity from MHD, 1966, pp 849-857]

Results are presented from an experimental study of laminar and turbulent magnetohydrodynamic flow of liquid sodium in a rectangular duct with conducting walls. The studies were made on a specially equipped sodium loop. The purpose of the study was to determine the losses in the walls and the magnetohydrodynamic losses in the different regimes of movement of the metal.

A study was made of the magnetohydrodynamic flow of a conducting liquid in the rectangular duct of a magnetohydrodynamic generator with conducting walls for metal velocities to 30 m/sec. In a long channel the analysis was made of the pressure losses without load as a function of the flow parameters. The contribution of the losses in the walls and the magnetohydrodynamic losses to the total losses is determined. The efficiency of conversion of the kinetic energy into electric energy with different duct parameters was investigated in a short duct.

From the point of view of improving the efficiency of the complete cycle of the magnetohydrodynamic conversion system in a liquid metal, magnetohydrodynamic generators with high metal temperature in the operating zone of the generator (600-800°C) are preferable. The creation of such generators encounters highly significant difficulties of manufacturing, the insulated walls or coverings operating at temperatures on the order of 700°C and with metal velocities of 50-100 m/sec. Along with the search for means of solving this problem it is of interest to investigate ordinary generators for which the upper and lower walls were made of stainless steel, and the side walls, electrodes.

The most significant feature of such generators is the significant pressure losses at tide which are accumulated from the losses caused by currents in the walls and losses connected with the effect of the magnetic field

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR UDC 547.754:543.422.4:541.67

GRANDBERG, I. I., BELYAYEVA, L. D., and DMITRIYEV, L. B., Moscow Agricultural Academy Imeni K. A. Timiryazev

"Indoles. XXXV. Preparation of 4-Nitro- and 6-Nitroindoles Forming During Cyclization of m-Nitrophenylhydrazones in Fischer Reaction"

Riga, Khimiya Geterotsiklicheskikh Soyedineniy, No 1, Jan 73, pp 37-39

Abstract: Cyclization of diethyl ketone m-nitrophenylhydrazone was studied under various conditions, always leading to a mixture of 4-nitro-3-methyl-2-ethylindole and 6-nitro-3-methyl-2-ethylindole, the first compound forming in slight excess. The ratio of the isomers depends on the catalyst used. In general, the results support the mechanism of intramolecular electrophilic substitution. The nitrogroup exhibits a strong I- and M-effects. The I-effect deactivates the ortho position, but the mesomeric polarization specifically deactivates the para-position. During the cyclization of the m-substituted phenylhydrazones, steric factors will always favor the formation of 6-isomer, regardless of the electronic nature of the substituent. For example, cyclization of the m-nitrophenylhydrazone of methylisopropyl ketone yields 6-nitro-2,3,3-trimethylindolenine exclusively. 1/1

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

DMITRIYEV, V.D.

RADIATION / STEEL

(6)

JPRS 60973

14 January 1974

UDC: 621.039.531:669.012.8

RADIATION SWELLING OF STEEL OKh18N9T

[Article by V.N. Bykov, A.G. Vakhtin, V.D. Dmitriyev, L.G. Kozlitenin, A. Ya. Ladygin, V.I. Shcherbak, Moscow, Atomnaya Energiya, Russian, Vol 35, No 4, 1973, submitted 8 January 1973, pp 235-237]

Many works pertaining to the investigation of the radiation strength of austenitic steels after irradiation in fast reactors and ion bombardment in accelerators [1, 2] have been published in recent times. The swelling of types 304 and 316 stainless steel has been subjected to most thorough investigation. Information on the swelling of OKh18N9T steel is limited to data for individual temperatures and integral doses [3]. The results of electron-microscopic analysis of the radiation porosity of OKh18N9T steel are presented in this article.

Experimental Material and Technique

The specimens for electron-microscopic analysis were discs 3.5 mm in diameter and 0.4 mm thick, cut from various fuel element jackets made of OKh18N9T steel and irradiated with integral fluxes of up to $4.4 \cdot 10^{22}$ neutron/cm^2 in the 430-590°C temperature range. The method of thinning of the specimens in a stream of electrolyte (60% H_3PO_4 + 40% H_2SO_4) is described in [4].

Processing of the results was accomplished directly from the negatives with the aid of an instrumental microscope. The measurement error of cavity diameters was 20 Å. The concentration of the pores in the specimen was determined by measuring at least 600 cavities in a specimen with a thickness of 1,500 Å. The summary error of determination of the swelling of the material was 50%, but the scattering of the values from the arithmetic mean value for several measurements of the same specimen did not exceed 20%.

Investigation of the Swelling of OKh18N9T Steel

Electron-microscopic analyses of the specimens revealed pores, homogeneously distributed through the body of the grain, the concentration

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USSR

UDC 621.43.011:533+621.5:533

KHZMALYAN, D. M., IZYUMOV, M. A., DMITRIYEV, G. G.

"Methods for Calculating Velocities in a System of Plane-Parallel Jets in a Bounded Space"

Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. Mosk. energ. in-t, 1970. Sekts. Energomashinostroitel'naya. Podsekts. Parogeneratorostroyeniya (Papers of the Scientific-Technical Conference on Achievements in Scientific Research Work in 1968-1969. Moscow Power Engineering Institute, 1970. Power Machine Building Section. Steam Generator Building Subsection), Moscow, 1969, pp 57-60 (from RZh-Mekhanika, No 4, Apr 70, Abstract No 4B453)

Translation: The basic assumptions of the technique for calculating the characteristics of a system of turbulent jets spreading into a bounded space are presented. A system of equations consisting of Reynolds equations, continuity equations, and conditions for constant pulse and flow was used for the calculation. The calculation was carried out for characteristic segments of the flow. Solutions of the system are given in closed form

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KHZMALYAN, D. M., et al, Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. Mosk. energ. in-t, 1970. Sekts. Energomashinostroitel'naya. Podsekts. Parogeneratorostroyeniya, Moscow, 1969, pp 57-60

for the first and second sections and an equation is obtained for the third section which is solved by computer. 7 references. Yu. F. Dityakin.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR

UDC: 531.55:521.1

DMITRIYEV, G. N.

"On a Three-Degree Gyroscope With Elastic Rotor Suspension"

Tr. Kazan. aviats. in-ta (Works of Kazan' Aviation Institute), 1971, vyp. 138, pp 58-64 (from RZh-Mekhanika, No 7, Jul 72, Abstract No 7A93)

Translation: The paper deals with motion of a gyroscope with elastic rotor suspension mounted on a movable base. It is shown that there is no systematic drift of the gyroscope resulting from constant disturbing moments acting over the rotor suspension axes, centrifugal moments of inertia, displacement of the centers of mass of the ring and rotor in the equatorial plane, or the component of acceleration of motion of the base directed along the axis of the drive shaft. Author's abstract.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

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UDC: 531.383+62--752.4

ARUTYUNOV, S. S. and DMITRIYEV, G. N.

"Howe Gyroscope on a Uniformly Rotating Base"

Leningrad, Priborostroveniye, No 2, 1972, pp 80-84

Abstract: Assuming that a Howe gyroscope is set up on a base rotating at constant velocity around an axis perpendicular to the drive axis, the authors analyze the possibility of designing a free gyroscope based on the Howe design. The equation of motion of the system is derived from the Lagrangian equations of the second kind under the assumption that the moment of the resistance at the drive shaft is balanced by the rotational moment. The problem of whether the parameters of the Howe gyroscope can be chosen such that, with the base rotating, the longitudinal axis of the rotor shaft maintains its position in space making only small periodic oscillations, is solved. Three possible conditions of the gyroscope's motion are examined. The authors, members of the Kazan Aviation Institute, find that forced motions of the Howe gyroscope cannot be completely eliminated.

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USSR UDC: 621.376.55(088.8)

DMITRIYEV, I. P., PRIBYLOV, B. A.

"A Pulse Modulator"

USSR Author's Certificate No 277837, filed 22 Nov 68, published 3 Nov 70 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D325 P)

Translation: A pulse modulator is proposed which contains a DC voltage source, a charging element (e. g. a choke), a separation diode, a commutator based on a thyratron, an ignition pulse oscillator, an accumulator in the form of an artificial line, and a load. To ensure pulse-code operating conditions with respect to the pulse length with simultaneous amplitude stabilization, the modulator is equipped with additional semiconductor diodes whose anodes are connected to the common terminal of the charging circuit, while the cathodes of each of the semiconductor diodes are connected to the output of the individual cells which make up the accumulator. V. P.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CALCULATION OF EFFECTIVE CROSS SECTIONS OF K ELECTRON LOSS BY FAST HYDROGEN LIKE IONS DURING A COLLISION WITH NITROGEN ATOMS -U-

AUTHOR-(04)-SENASHENKO, V.S., NIKOLAYEV, V.S., SHAFER, V.YU., DMITRIYEV, I.S.

COUNTRY OF INFO--USSR

SOURCE--VESTN. MOSK. UNIV., FIZ., ASTRON. 1970, 11(2), 136-45

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--NUCLEAR CROSS SECTION, HYDROGEN, NITROGEN, NUCLEAR COLLISION, ELECTRON LOSS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3009/0093 STEP NO--UR/0188/70/011/002/0136/0145

CIRC ACCESSION NO--AP0138958

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR

UDC 576.858.095.2

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"Inactivation of Viruses in Air"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1973, pp 21-25

Abstract: Studies were conducted on the effects of relative humidities of 20-25%, 50-55%, and 80-85% at 19-22°C in inactivating the following viruses in a 500 liter chamber: parainfluenza type 3, respiratory syncytial virus (RSV; Randall strain), adenoviruses (type 5 and strain 22f), enteroviruses (ECHO-7), and Newcastle disease virus (NDV). Aerosol sprays of the virus in question were introduced into the chamber and 20 liter samples were taken at different time intervals, the viruses concentrated and tested in terms of CPE on tissue cultures (ECHO-7 on primary trypsinized monkey kidney cells, parainfluenza, RSV, and the adenoviruses on HeLa cells [parainfluenza was followed by hemadsorption], and NDV strain B_1 was followed by infection of 9-day-old chick embryos and the allantoic fluid was tested by passive hemagglutination). The results showed that the most rapid fall in titer occurred within the first 5-30 min. The enterovirus and the adenoviruses were shown to be most susceptible

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR

DMITRIYEVA, R. A., Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 4, 1973, pp 21-25

to low relative humidities, with no viruses detected after 3 hrs at a relative humidity of 20-25%. However, at intermediate and high relative humidities these viruses could be detected at 24 hrs. NDV could be detected at 7 hrs when exposed to low and intermediate relative humidities, and at 5 hrs at high relative humidity. Parainfluenza virus could still be detected at 3 hrs at low humidity, while RSV was not detectable at 2 hrs under any condition. While the mechanisms by which relative humidity affects viral activity are not completely understood, it is believed that the absence of an envelope on the adenoviruses and the parainfluenza virus is responsible for the high lability of these viruses to low relative humidities.

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SECTION III 50: SELECTED RESEARCH [illegible] FACILITIES

Name: Institute of Biophysics, Pushchino

Description:

FCS-93
SEPT 71

biophysics

(U) During this quarterly reporting period, 25 new articles were identified from the Institute of Biophysics, Pushchino. On the basis of these articles, it was possible to identify 32 new personalities with the institute. These personalities, the subjects of the articles, and the dates are given below:

All-biophysics/physiology

Alyyeva, S. A.	phosphorylation	1971 (34)
Apikayeva, G. F.	radiation effect	1970 (35)
Arlyuova, D. F.	radiation effect	1971 (36)
Arkhipa, Ya. I.	hypoxia	1969 (37)
Brigadze, I. F.	radiation effect	1970 (35)
Busel, Ye. P.	luminescence	1970 (35)
Dmitriyeva, T. I.	radiation effect	1970 (35)
Dmitriyeva, V. A.	blood plasma	1969 (40)
Domareva, O. P.	radiation effect	1970 (39)
Dubrov, A. P.	biochemical analysis	1971 (41)
Gabulova, N. A.	muscle physiology	1971 (42)
Gannasi, Ye. E.	radiation effect	1970 (35)
Ivkova, M. N.	serum albumin	1971 (43)
Knnatkin, V. S.	phosphorylation	1971 (34)
Klokhlova, G. K.	muscle physiology	1971 (44)
Klnlov, A. N.	salivary gland	1970 (45)
Klyagina, V. P.	oligonucleotide	1970 (46)
Koval, B. A.	radiation effect	1971 (44)
Kopeleva, G. N.	biochemical analysis	1971 (41)

DMITRIYEVA, V.A.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

Kuzmina, S. V.	tissue culture	1970 (47)
Markovich, D. S.	lactate dehydrogenase	1971 (46)
Medvedeva, I. F.	radiation effect	1971 (44)
Peshkova, L. V.	phosphorylation	1971 (49)
Pronevich, L. A.	antibiotic	1970 (50)
Rodionova, N. A.	mitochondrion	1971 (51)
Shchipakin, V. N.	phosphorylation	1971 (49)
Skobeyev, Ya. M.	radiation/vibration	1970 (52)
Suyarov, V. V.	radiation effect	1970 (35)
Tsvetkov, V. D.	blood plasma	1969 (40)
Zarikhina, N. V.	lactate dehydrogenase	1971 (48)
Vlasenchik, M. M.	radiation effect	1970 (53)
Zapyatkin, A. A.	muscle physiology	1971 (42)

Dubrov and Kosheleva (41) are associated with the Laboratory of Cell Biophysics at the Institute. Reference 52 above is of special interest since it presents an investigation of combined stresses, i.e., radiation and vibration. In addition to the above articles, five of the twenty-five (54-58) were authored by persons already identified with the Institute of Biophysics, Pushchino.

Reference 55 associates the authors of the article, L. V. Slozhenikina, V. L. Migushina, and A. M. Kuzin, with the Department of Radiobiology at the Institute.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 006 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--PREPARATION OF BLACK CEMENT -U-

AUTHOR-(05)-KRAVCHENKO, I.V., CHEREPOVSKIY, S.S., ALESHINA, O.K., CHISTYAKOV, G.I., DMITRIYEVA, V.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 267,430

REFERENCE--OTKRYTIYA, IZOBRE., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--01APR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CEMENT, PATENT, PIGMENT, MANGANESE COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1404 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128803

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 006 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0128803

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BLACK CEMENT BASED ON ORDINARY PORTLAND CEMENT WAS OBTAINED BY INTRODUCING A PIGMENT ADDITIVE INTO THE CLINKER. TO OBTAIN A DEEPER TONE, THE CLINKER WITH A MN ORE ADDITIVE WAS COOLED IN AN O ENRICHED GAS MEDIUM FROM ITS SINTERING TEMP. TO 900DEGREES. FACILITY: STATE SCIENTIFIC RESEARCH INSTITUTE OF THE CEMENT INDUSTRY.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 006 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--WHITENING OF A PORTLAND CEMENT CLINKER -U-

AUTHOR-(05)-KRAVCHENKO, I.V., CHEREPOVSKIY, S.S., ALESHINA, O.K., DMITRIYEVA, V.A., CHISTYAKOV, G.I.

COUNTRY OF INFO--USSR

SOURCE--USSR. 267,432

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,

DATE PUBLISHED--01APR70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--CEMENT, PATENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1434 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0128833

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 006 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AA0128833
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A PORTLAND CEMENT CLINKER WAS WHITENED BY BEING COOLED FROM 1200 TO 450DEGREES IN A REDUCING GAS MEDIUM CONTG. 3-10 VOL. PERCENT CO PLUS H. FACILITY: STATE SCIENTIFIC RESEARCH INSTITUTE OF THE CEMENT INDUSTRY.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR

UDC 535.379

PARSHIN, G. S., BULGAKOV, R. G., KAZAKOV, V. P., and DMITRIYEVA, YE. V., Institue of the Chemistry, Bashkir Branch, Academy of Sciences USSR

"Chemiluminescence of Uranyl in Concentrated Sulfuric Acid, Produced by Ozone"

Moscow, Khimiya Vysokikh Energiy, Vol 6, No 6, Nov-Dec 72, pp 498-501

Abstract: Chemiluminescence of UO_2^{2+} solutions in concentrated sulfuric acid caused by ozone was studied. Chemiluminescence occurs as a result of ozone breakdown on the reaction vessel walls. Uranyl ions do not catalyze this breakdown. On the basis of the results obtained from the determination of the spectral range of luminescence it was concluded that oxygen and uranyl act as the emittors of chemiluminescence. It was established that processes responsible for the luminescence are determined to a great extent by the reaction vessel walls.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 031 UNCLASSIFIED PROCESSING DATE--23OCT7

TITLE--YIELDS OF FLUORINE 18 DURING THE IRRADIATION OF SODIUM, MAGNESIUM, AND ALUMINUM BY HELIUM 3 IONS AND THE IRRADIATION OF SODIUM BY ALPHA

AUTHOR-(05)-KRASNOV, N.N., DMITRIYEV, P.P., DMITRIYEVA, Z.P., KONSTANTINOV, I.O., MOLIN, G.A.

COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. 1970, 28(3), 257

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--FLUORINE ISOTOPE, SODIUM, MAGNESIUM, ALUMINUM, IRRADIATION, ALPHA PARTICLE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1578 STEP NO--UR/0089/70/028/003/0257/0257

CIRC ACCESSION NO--AP0120357

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 031 UNCLASSIFIED PROCESSING DATE--23OCT7

CIRC ACCESSION NO--AP0120357

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE YIELDS OF PRIME18 F (DISINTEGRATIONS-SEC-MU A-HR) FROM PRIME23 NA (PRIME3 HE, 2 ALPHA) PRIME18 F AND PRIME23 NA (ALPHA, 2 ALPHA N) PRIME18 F WERE SIMILAR TO E TIMES 10 PRIME6 AT SIMILAR TO 27.5 MEV AND SIMILAR TO 55 TIMES 10 PRIME AT SIMILAR TO 44 MEV, RESP. FOR PRIME24 MG (PRIME3 HE, 2 ALPHA N) PRIME18 NE YIELDS PRIME18 F, THE YIELD WAS SIMILAR TO 5 TIMES 10 PRIME6 AT SIMILAR TO 28 MEV AND FOR PRIME27 AL (PRIME3 HE, 3 ALPHA) PRIME18 F. IT WAS SIMILAR TO 2.5 TIMES 10 PRIME6 AT 29.5 MEV.

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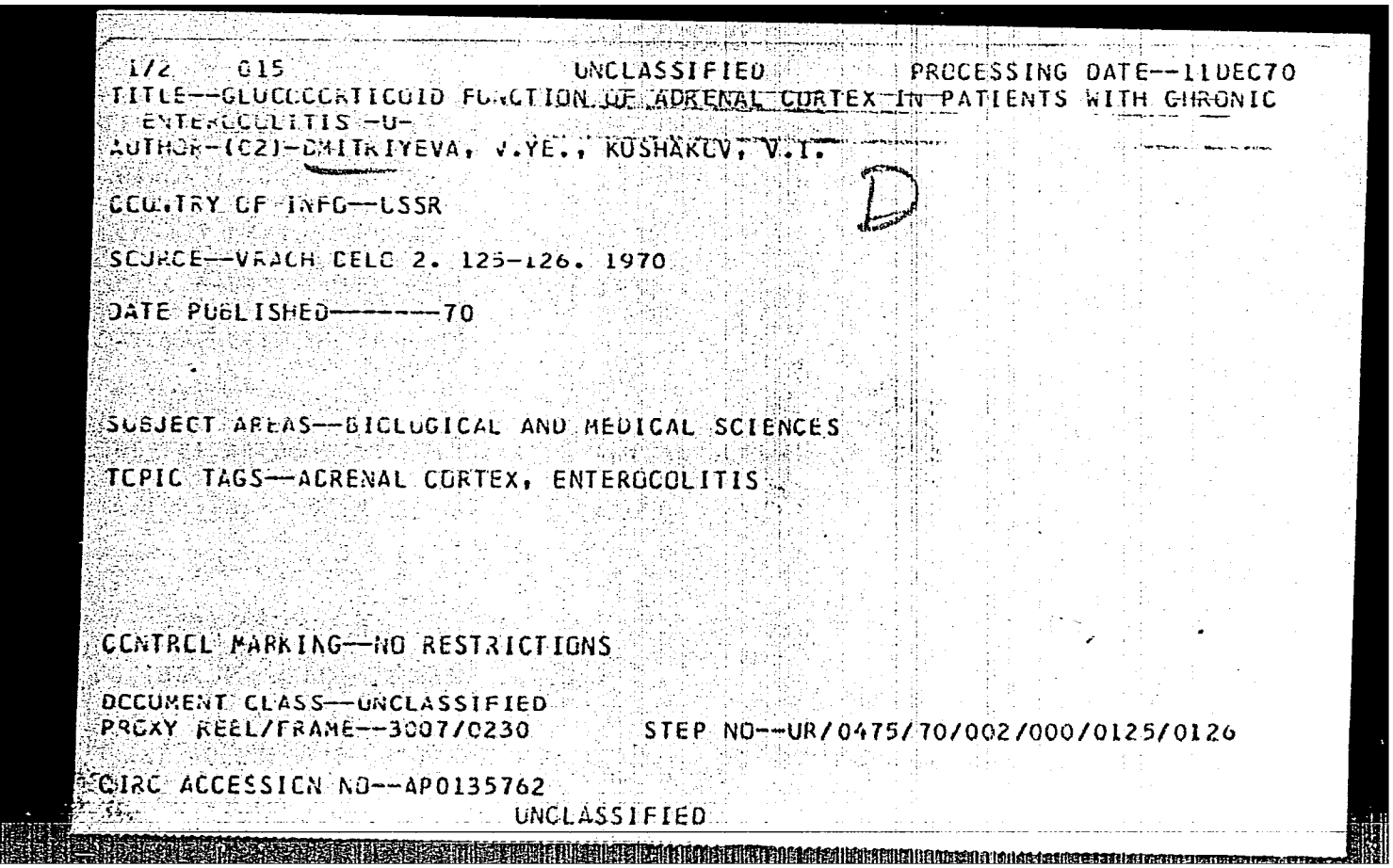

1/2 015 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--GLUCOCORTICOID FUNCTION OF ADRENAL CORTEX IN PATIENTS WITH CHRONIC ENTEROCOLITIS -U-
AUTHOR-(02)-DMITRIYEVA, V.YE., KUSHAKOV, V.I.

COUNTRY OF INFO--USSR

SOURCE--VRACH DELO 2. 125-126. 1970

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ADRENAL CORTEX, ENTEROCOLITIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0230 STEP NO--UR/0475/70/002/000/0125/0126

CIRC ACCESSION NO--AP0135762
UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 015 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0135762

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FORTY TWO PATIENTS SUFFERING FROM CHRONIC ENTEROCOLITIS (PREDOMINANTLY OF SMALL INTESTINE) WERE STUDIED IN THE AGE OF 20-66 YR. THE MAJORITY OF PATIENTS SHOWED DECREASED LEVELS OF 17 OXYCORTICOSTEROIDS (OCS) IN URINE IN AVERAGE TO 3.57 MG-24 HR (COMPARED WITH A NORM OF 6-7 MG-24 HR) AND IN THE BLOOD TO 3.3 GAMMA (NORM 10-11 GAMMA). THE 17 OCS WERE INCREASED IN 3 PATIENTS SUFFERING FROM ENTEROCOLITIS AFTER GASTRIC RESECTION WITH A DUMPING SYNDROME. SOME CLINICAL SYMPTOMS OCCURRING DURING A HEAVY COURSE OF CHRONIC ENTEROCOLITIS MAY BE EXPLAINED BY DECREASED ADRENOCORTICAL FUNCTION CAUSED BY LOWERED ABSORPTION OF FAT, PROTEINS, VITAMINS AND OTHER COMPOUNDS IN SMALL INTESTINE. FACILITY: CENT. INST. POSTGRAD. MED., MOSCOW, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--YIELD OF CARBON 11 FROM PRIME9 BE (PRIME3 HE, N) PRIME11 C AND PRIME9 BE (ALPHA, 2N) PRIME11 C REACTIONS -U-

AUTHOR-(05)-KRASNOV, N.N., DMITRIYEV, P.P., DMITRIYEVA, Z.P., KONSTANTINOV, I.O., MOLIN, G.A.

COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. 1970, 28(3), 258

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY

TOPIC TAGS--CARBON ISOTOPE, ION BOMBARDMENT, ALPHA BOMBARDMENT, BERYLLIUM ISOTOPE, ION ENERGY, ALPHA SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1236 STEP NO--UR/0089/70/028/003/0258/0258

CIRC ACCESSION NO--AP0115253

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 021 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0115253

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE YIELD OF PRIME11 C IN THE PRIME9 BE (PRIME3 HE, N) PRIME11 C REACTION INCREASES ALMOST LINEARLY (0.05-1.60) TIMES 10 PRIME9 DECAYS-(SECMUA HR) WHEN THE PRIME3 HE IONS ENERGY IS INCREASED 2-30 MEV; THE YIELD OF PRIME11 C IN THE PRIME9 BE(ALPHA, 2N)PRIME11 C REACTION INCREASES FROM 0 TO (0.125-0.75) TIMES 10 PRIME9 DECAYS-(SEC MUA HR) WHEN THE ALPHA PARTICLES ENERGY IS INCREASED FROM 20 TO 27-44 MEV, RESP. THE ABOVE YIELDS WERE MEASURED BY BOMBARDING THE BE IN A CYCLOTRON.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--RADICAL PROPARGYL EXCHANGE OF HYDROXYETYL TERTIARY AMINES. SYNTHESIS OF N, 2 HYDROXYETHYL, PROPARGYLAMINES -U-

AUTHOR-(05)-DMITRIYEVA, Z.T., SHOSTAKOVSKIY, M.F., ATAVIN, A.S., KASHIK, T.V., TROFIMOV, B.A.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(5), 902-8

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BROMINATED ORGANIC COMPOUND, TERTIARY AMINE, CHEMICAL SYNTHESIS, ORGANIC AZO COMPOUND, ETHANOL, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/1333 STEP NO--UR/0366/70/006/005/0902/0908

CIRC ACCESSION NO--AP0135007

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 011 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0135007

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REACTION OF RR PRIME1 NCH SUB2 CH SUB2 CH (R AND R PRIME1 GIVEN: ET, ET; CH SUB2 :CHCH SUB2, CH SUB2 :CHCH SUB2; HOCH SUB2 CH SUB2, HOCH SUB2 CH SUB2; CH SUB2:CHCH SUB2, CH SUB2 CH SUB2 OH; PH, CH SUB2 CH SUB2 OH) WITH HC TRIPLE BOND CCH SUB2 BR IN COLD KOH SOLN. GAVE 70-90PERCENT RN(CH SUB2 CH SUB2 OH)CH SUB2 C TRIPLE BOND CH (I). HOWEVER, N(CH SUB2 CH SUB2 OH) SUB3 REACTED WITH HC TRIPLE BOND CCH SUB2 BR TO GIVE HOCH SUB2 CH SUB2 N(CH SUB2 C TRIPLE BOND CH) SUB2. AT 60-80DEGREES BESIDES I CYCLIC COMPOUNDS,, SUCH AS N,ETHYL,2,VINYL,1,3,OXAZOLIDINE WERE FORMED. SOME I WERE ALSO PREPD. BY REACTING HC TRIPLE BOND CCH SUB2 BR WITH RNHCH SUB2 CH SUB2 OH (R EQUALS H,ME,CH SUB2 CH SUB2 OH, CH SUB2:CHOCH SUB2 CH SUB2, OR PHCH SUB2). FACILITY: IRKUTSK. INST. ORG. KHIM., IRKUTSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 033 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--CALCULATION OF THE SHORT WAVE RADIATION FIELD IN THE SCHEME OF GENERAL ATMOSPHERIC CIRCULATION -U-
AUTHOR-(02)-DMITRIYEVAAKRAGO, L.R., SAMOILOVA, L.V.

D

COUNTRY OF INFO--USSR

SOURCE--I AKADEMIIA NAUK SSSR, IZVESTIIA, FIZIKA ATMOSFERY I OKEANA, VOL 6 JAN 1970, P 29-36
DATE PUBLISHED-------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--ATMOSPHERIC CIRCULATION, SHORT WAVE RADIATION, ATMOSPHERIC MODEL, HYDRODYNAMICS, ATMOSPHERIC RADIATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1989/1909 STEP NO--UR/0362/70/006/000/0029/0036

CIRC ACCESSION NO--AP0108239
UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 033 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0108239

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF PROCEDURES FOR CALCULATING THE SHORT WAVE RADIATION FLUXES TO BE INCLUDED IN A HYDRODYNAMIC MODEL OF GENERAL ATMOSPHERIC CIRCULATION. ESTIMATES ARE MADE OF THE ACCURACY OF RADIATION FLUX CALCULATIONS IN VIEW OF THE INCOMPLETE AND INACCURATE INITIAL DATA FOR THE PARAMETERS INVOLVED. SPECIFICALLY, ATTENTION IS GIVEN TO THE INFLUENCE EXERTED ON THE RADIATION FLUX IN THE 0.7 TO 5 MICRON RANGE BY THE ALBEDO OF THE UNDERLYING SURFACE, THE AVERAGING OF SOLAR ZENITH ANGLES, AND LIMITED KNOWLEDGE OF HUMIDITY. CALCULATIONS WERE BASED ON AIRCRAFT SOUNDING DATA AND ON RESULTS OF AEROSTATIC OBSERVATIONS. TABLES AND CURVES ILLUSTRATE THE SPECIFIC EFFECTS OF THE FACTORS CONSIDERED.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

1/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--NEW TUBULAR PILE DRIVING DIESEL HAMMERS -U-

AUTHOR-(03)-LYZO, B.G., DMITREVICH, YU.V., TERENTSKIY, L.N.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, OSNOVANIYA, FUNDAMENTY I MEKHANIKA GRUNTOV, NO 1, 1970, PP 27-28

DATE PUBLISHED--------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CONSTRUCTION MACHINERY, REINFORCED CONCRETE, DIESEL ENGINE, SOIL STRUCTURE, PILE DRIVER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/1452 STEP NO--UR/0225/70/000/001/0027/0028

CIRC ACCESSION NO--AP0107896

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

2/2 015 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0107896

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CERTAIN RESULTS OF TESTS CONDUCTED FROM JUNE 1968 TO JANUARY 1969 OF THREE NEW TYPES OF TUBULAR DIESEL HAMMERS DESIGNED FOR REINFORCED CONCRETE PILE DRIVING, UNDER CONDITIONS OF EXTREME NORTH ARE PRESENTED. THE NEW DIESEL HAMMERS, WHOSE CHARACTERISTICS ARE GIVEN, DIFFER FROM THE PREVIOUS ONES BY HIGHER RESILIENCE, THERMAL TREATMENT AND WELDING OF THEIR COMPONENTS, ENSURING THEIR STRENGTH AT MINUS 60DEGREESC AIR TEMPERATURE. THE WEIGHT OF HAMMERS AND THEIR IMPACT ENERGY PER BLOW ARE RESPECTIVELY: 1800, 2500 AND 3500 KG; 3200, 4350 AND 6100 KG-M. THEY ARE PROVIDED WITH DEVICES WHICH CAN INCREASE THE COMPRESSION RATIO UP TO 20, RESULTING IN THE RISE OF AIR TEMPERATURE IN A CYLINDER AT THE END OF THE COMPRESS ON PROCESS. THIS TEMPERATURE INCREASE THEORETICALLY IMPROVES THE STARTING OF HAMMERS AT MINUS 30DEGREESC. HOWEVER, THE TESTS CONDUCTED ON VARIOUS SITED DID NOT SHOW AN IMPROVEMENT IN STARTING QUALITY OF HAMMERS AT MINUS 30DEGREESC WITH A COMPRESSION RATIO OF 20. IT WAS ESTABLISHED THAT STARTING THE HAMMERS WITH A COMPRESSION RATIO OF 15 IS ENSURED WHEN THE PILE DRIVING IS DONE AT 12-14 CM PER BLOW, WHILE WITH A COMPRESSION RATIO OF 20 STARTING IS POSSIBLE ONLY WITH 1 OR 2 CM PER BLOW. IT WAS FOUND, THAT IN ORDER TO SECURE A GOOD STARTING QUALITY AND HIGH PRODUCTIVITY OF HAMMERS, IT IS NECESSARY THAT THE CONCRETE PILE WEIGHT BE GREATER THAN THE WEIGHT OF THE IMPACTING MASS, BUT NOT GREATER THAN THE WEIGHT LIMIT CHARACTERISTIC OF EACH TYPE OF DIESEL HAMMERS. DRIVING TECHNIQUES USED IN VARIOUS SOILS WITH VARIOUS REINFORCED CONCRETE PILES (30 TIMES 30, 35 TIMES 35 CM AND HOLLOW 600 MM IN DIAMETER) ARE DESCRIBED.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0

USSR

UDC 624.155.15

LYZO, B. G., DMITREVICH, Yu. V., TERENTSKIY, L. N.

"New Tubular Pile Driving Diesel Hammers"

Moscow, Osnovaniya, Fundamenty i Mekhanika Gruntov, No 1, 1970, pp 27-28

Abstract: Certain results of tests conducted from June 1968 to January 1969 on three new types of tubular diesel hammers designed for reinforced concrete pile driving, under conditions of Extreme North are presented. The new diesel hammers, whose characteristics are given, differ from the previous ones by higher resilience, thermal treatment and welding of their components, ensuring their strength at -60°C air temperature. The weight of hammers and their impact energy per blow are respectively: 1800, 2500 and 3500 kg; 3200, 4350 and 6100 kg/m. They are provided with devices which can increase the compression ratio up to 20, resulting in the rise of air temperature in a cylinder at the end of the compression process. This temperature increase theoretically improves the starting of hammers at -30°C. However, the tests conducted on various sites did not show an improvement in starting quality of hammers at -30°C with a compression ratio of 20.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200630008-0"